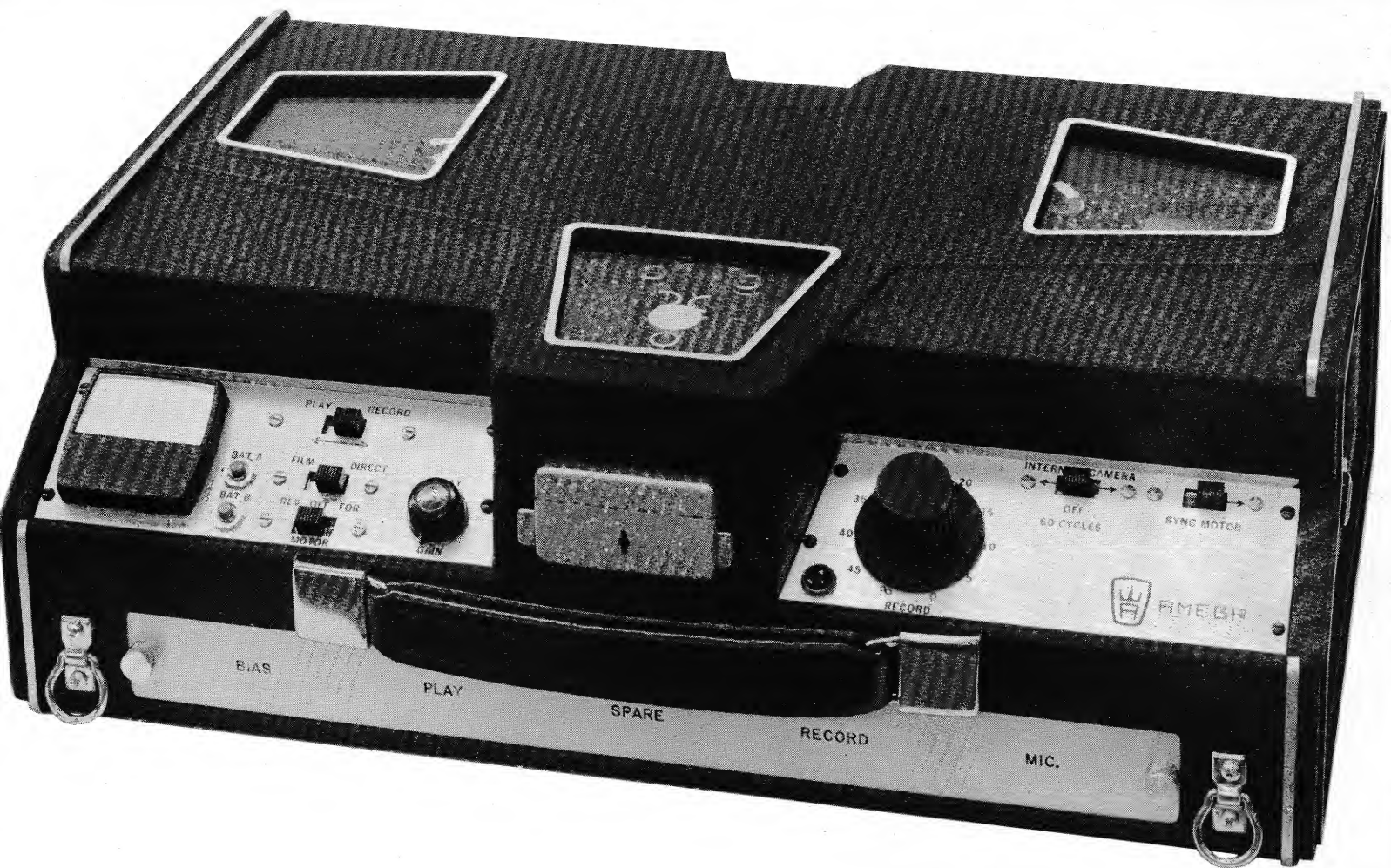
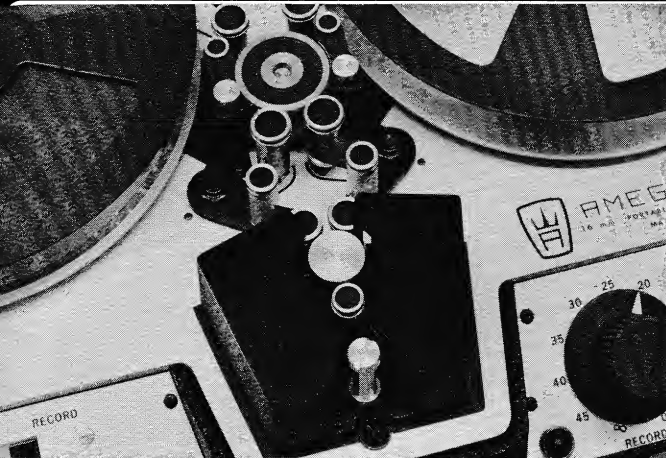


# *The* AMEGA M-3

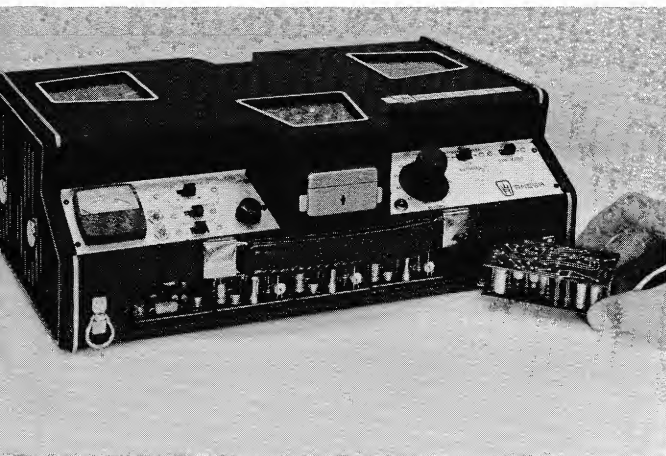
the first **PORTABLE** synchronous  
**16mm FILM RECORDER**



COMPLETELY SELF-CONTAINED,  
OVER-THE-SHOULDER  
STUDIO QUALITY



Unique film movement utilizes instrumentation-type drive which holds flutter to less than .15 any band, .2 rms. over-all.



Plug-in modules are interchangeable between microphone pre-amplifier, record amplifier and playback preamplifier. Bias oscillator and one spare module complete amplifier section.



Transistor power supply designed to operate from desert to Alaskan temperatures. Special heat sink incorporated into recorder housing.



Input-output panel located at right hand end of recorder so that cables will trail the operator during portable operation.

# The AMEGA M-3 PORTABLE RECORDER

is the first new innovation in motion picture sound recording in the past ten years. It is truly portable in size and function for over-the-shoulder operation. The self-contained batteries drive a salient pole synchronous motor utilizing a miniaturized solid state converter. Standard 16mm magnetic film is used. The specifications of the amplifier and the film travel speed meet and maintain all SMPTE standards.



- 1 Plug-in module compartment. Recording and playback preamplifiers, microphone preamplifier, bias oscillator and one spare preamplifier.
- 2 VU-meter, record-playback switch, film-direct monitor, playback gain control, motor control (for playback and rewind functions only), and battery test buttons.
- 3 Record control panel. Camera 60 cycle pulse signal, internal 60 cycle, motor run switch and record gain control.
- 4 Record and playback head assembly. Plug-in type with azimuth adjustment.
- 5 Sprocket drive from sync motor.
- 6 Self-contained reel assemblies for 400 ft. film capacity.
- 7 Cover for sound proofing, with windows for reels and drive. Case made from cast aluminum.
- 8 Audio and power panel for connecting microphone input, bridge input, dialog/music switch, headphone jack, monitor gain control. AC power plug, internal-external power switch, battery charger plug, and camera-sync input.
- 9 AC inverter transistor heat sink.

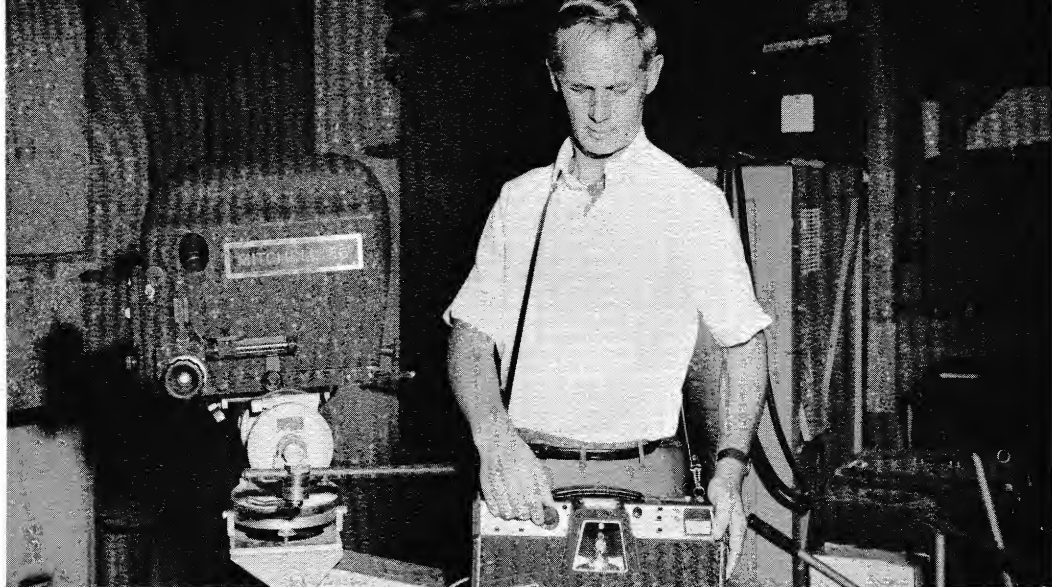
# AMEGA M-3

## PORTABLE 16mm FILM RECORDER



- Standard 16mm 400 ft. reels of magnetic film for ten minutes of continuous operation. Split-apart self-contained reel assemblies permit ease of loading.
- Salient pole synchronous motor is gear coupled to the sprocket drive. Absolute sync is achieved from camera 60 cycle pulse signal. The 60 cycle pulse signal from the camera, amplified through the inverter, controls the speed of the synchronous motor. Built-in 60 cycle frequency generator permits using recorder for synchronous sound with no external source of power or frequency regulation.
- All metal case provides rugged enclosure for mechanism and amplifier.
- Standard switching and controls include record gain control, playback gain control, direct monitor control, separate film-direct, record, playback, sync forward, external-internal 60 cycle control and battery test switches for amplifier power supply and inverter power supply. Separate forward, reverse switch for rewind, internal/external AC power switch and music/dialogue switches are also provided.
- Two torque motors are used for take-up and rewind.
- The Amega M-3 is ideal for field use with any camera which has a 60 cycle output generator, or with camera driven by synchronous motors. Absolute lip-sync is achieved.
- Recording directly on 16mm magnetic film eliminates the dubbing process which is necessary when using 1/4" tape. The result means savings in dollars and time.
- All SMPTE and industry standards are maintained with the use of 16mm magnetic film. Playback is immediate, and the editing process is greatly simplified.
- The nickel cadmium battery power pack is removable and rechargeable. Spare power pack enables the operator to have one set of batteries charging while the other set is in use.
- Audio circuitry and components are equal to the Amega studio recorders. Miniaturization has meant no compromise in quality or specifications. The use of plug-in modules permits the operator to maintain the equipment to a large degree.
- All controls are designed and placed for maximum convenience of operation. The M-3 will operate in either a horizontal or vertical position, under a wide variety of environmental extremes.





Omega M-3 with Mitchell "16" being used as double system recorder.



M-3 and Auricon camera, double system, using line source 110 volt-60 cycle power.

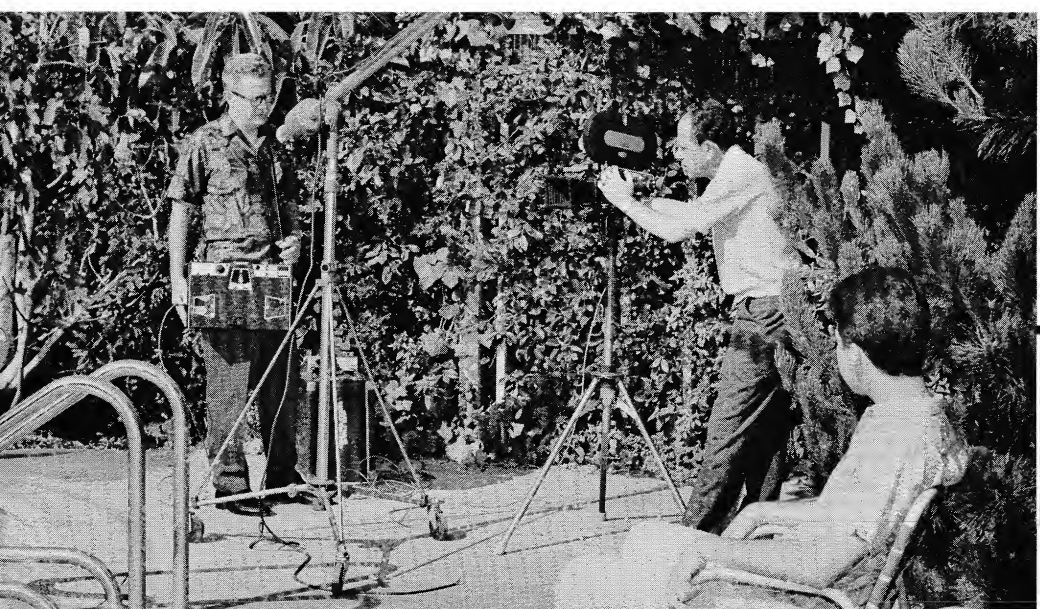


On location, the M-3 can be used with any camera with "sync pulse out".





Checking batteries before location shooting on roof of building.



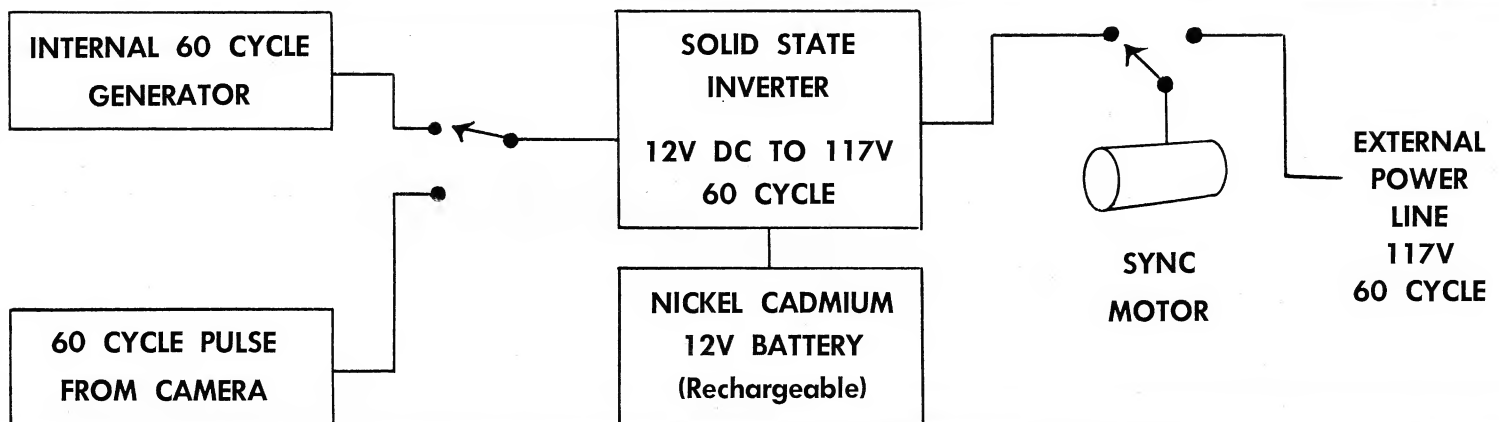
Arriflex camera with "pulse sync" and M-3 Portable Recorder.



"Pulse sync" from Arriflex camera to Amega M-3 Recorder.

# AMEGA M-3 SPECIFICATIONS

- Film type:** Standard 16 MM magnetic film.
- Tracking:** Standard edge track.  
Other track placements available on special request.
- Track width:** 200 mils standard for 16 MM master recording.
- Drive motor:** Salient pole synchronous 117 volts 60 cycle.  
Also available 50 cycle.
- Takeup and rewind:** Two DC torque motors, one for takeup and one for rewind.
- Power supply:** 12 and 24 volts DC from nickel cadmium rechargeable batteries or 117 volt 60 cycle from power line.
- Output from inverter:** 117 volts 60 cycle 20 watts.
- Internal frequency:** Transistorized frequency generator for internal 60 cycle sync signal and external sync from camera.
- Amplifiers:** Transistorized plug-in microphone preamplifier, record amplifier and playback preamplifier.  
All completely interchangeable.  
Transistorized plug-in bias oscillator.
- Inputs:** Microphone 50-250 ohm 90 DB gain.
- Bridge:** 20 K ohm 20 DB gain.  
For Bridging 600 ohm line.
- Output:** Minus 5 dbm.
- Frequency response:** 50 to 10,000 cycle  $\pm$  2 db.
- Distortion:** Less than 1% total harmonic from recorded film.
- Flutter and wow:** Less than .15 in all bands, .2% overall.
- Signal to noise ratio:** 50 db.
- Weight:** Less than 22 lbs. with batteries and film.



## WARRANTY:

All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone preamplifier will be replaced as complete boards by your dealer or the factory.

Defective mechanical and electronics components will be replaced on exchange basis. Replacement parts will be shipped air mail without charge to the customer to any part of the world. Record and play heads are guaranteed except for normal wear. No claims under the guarantee will be entertained if parts have been misused or abused.



# AMEGA

11817 WICKS STREET / SUN VALLEY, CALIFORNIA

Cable Address: AMEGAMAG North Hollywood, California

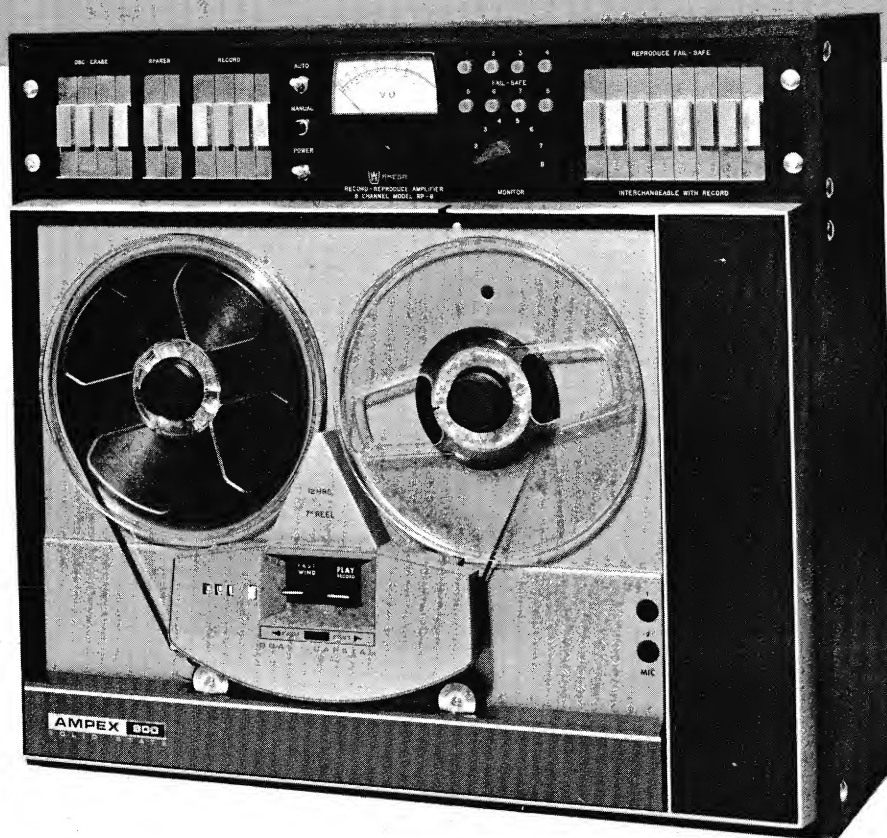
AN AFFILIATE OF OMEGA ENGINEERING COMPANY

Manufacturers of Motion Picture Sound Devices



# AMEGA MULTI-CHANNEL

## MODULE AMPLIFIERS for COMMUNICATIONS & RECORDING



**UNIT SHOWN UTILIZES A MODIFIED TAPE DECK  
TO PROVIDE FOR 12 HOURS CONTINUOUS RECORDING**

**8 CHANNELS ON STANDARD 1/4" TAPE**

**AVAILABLE IN 4 CHANNEL MODEL; ADD TO EIGHT CHANNELS AS REQUIRED**

**LOW COST — EASY TO OPERATE**

**Write for complete details including installation data, service guarantee and price**





## FEATURES

**AMEGA** INTERCHANGEABLE MODULES USED FOR RECORD AND REPRODUCE.

12 hours continuous recording – 24 hours (with 2 decks).

Fail-safe all channels. Pilot light for each channel to indicate any failure.

When two decks are used "switch-over" is automatic for "fail-safe," or for continuous recording.

Unit uses standard  $\frac{1}{4}$ " tape which is automatically erased when new recording is made.

Small size 17" x 18" x 5" deep unit can be mounted on wall, upright on table, or on flat on back under desk, etc.

Simple to install – complete instructions with each system.

Two year guarantee on all parts and modules. Any tape recorder dealer can service complete unit. V.O.R. and signal relay operation available.

The unit shown utilizes a modified tape deck to provide for 12 hours continuous recording on a 7" reel. Eight channels are possible with interlaced heads on  $\frac{1}{4}$ " tape. Only four modules are required for recording. Each module provides for two channels. Reproducing and fail-safe uses one module per channel. The fail-safe feature uses one section of the amplifier to switch decks and to illuminate a pilot indicating which channel has failed. The record and reproduce modules are completely interchangeable. A spare module is provided for each assembly. Only a  $3\frac{1}{2}$ " x 19" panel is required for recording, reproducing, erase and fail-safe. Combination analog and digital units available.



**AMEGA**

*The most progressive name in Sound*

Manufacturers of Motion Picture Sound Devices  
AN AFFILIATE OF OMEGA ENGINEERING COMPANY

11817 WICKS STREET / SUN VALLEY, CALIFORNIA



# AMEGA

## SINGLE SYSTEM SOUND

Model E-2

"SLIDE-MIXER"

Model LO-1

"LINE-OSCILLATOR"

Model SE-1

"EDIT-SYNC"



# AMEGA

*The most progressive name in Motion Picture Sound*

Manufacturers of Motion Picture Sound Devices

AN AFFILIATE OF OMEGA ENGINEERING COMPANY

11817 WICKS STREET / SUN VALLEY, CALIFORNIA

# AMEGA

## Portable "SLIDE-MIXER"

For single system cameras and double system recorders mixing "Remote" from camera is now possible using AMEGA "LINE OSCILLATOR." No other equipment is required. The Model E-2 uses studio type components with no compromise in quality.



The unit has been designed for in field operation utilizing the Amega interchangeable miniature modules operating from nickel cadmium rechargeable batteries. The basic mixer uses one module for each mic channel, one module for +8 dbm line output and a fourth module for monitoring reproduce signals from tape recorders or single system cameras.

The companion item to this unit is the Amega record "Line Oscillator" equalizer. This unit provides use of the mixer several hundred feet from the recorder or single system camera. The oscillator equalizer is an in line component which plugs directly into the recorder or camera record head. Additionally, the unit has a reproduce booster stage so that the output of the reproduce head can be fed back through the mixer for "tape" "direct" monitor.

When multi-channel requirements exist, the mixer is constructed so that several units can be "ganged" together for an infinite number of channels.



# AMEGA

## "LINE OSCILLATOR"

Model LO-1 Oscillator Equalizer. Unit provides bias for the record head and can be used with any Amega mixer. Permits mixing several hundred feet from recorder or single system camera.

The Oscillator Equalizer is an "in-line" plug in type unit only 5 inches long. To provide "Bias" for the record head it must be within 3 ft. from the head assembly. Also self-contained is the reproduce head preamp. Film-direct monitor takes place at the mixer.







# AMEGA "EDIT-SYNC"

## THE AMEGA SINGLE SYSTEM SOUND EDITOR

It is now possible to edit the sound track from single system recordings. The Amega Model SE-1 Recorder displaces sound to "edit-sync." After the editing process, the track is erased and re-recorded to 28 frames displacement for projection.

The unit is completely transistorized, utilizing Amega miniature interchangeable modules. Additional features include an equalizer and separate monitor heads for both the "edit" mode and re-recording to "projection" mode. Operation is simplified by use of computer type switching selector plug. Once the mode is selected a single button is punched for automatic operation.

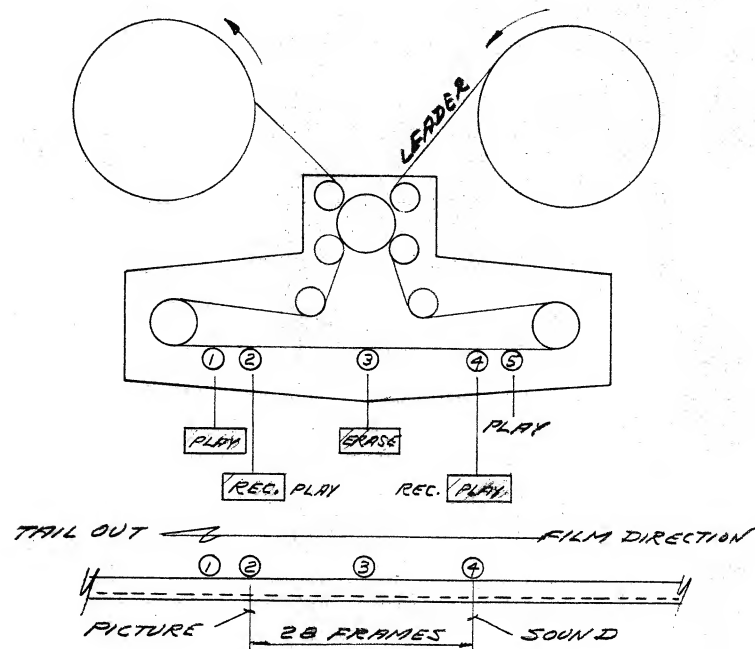


Model ES-1

The "Edit-Sync" recorder is supplied with two 1200 ft. split reels. Four modes are possible with the selector plug. "Edit-Sync," "Project-Sync," "Rec.-Erase-Reproduce" and "Reproduce only". When track is being displaced in either mode it can be both "direct" and reproduce ("Film") monitored. This feature is a safety factor plus it permits balancing the track level. Output provided for protection track.

Equalizing as may be desirable is done in the "Edit-Sync" Mode.

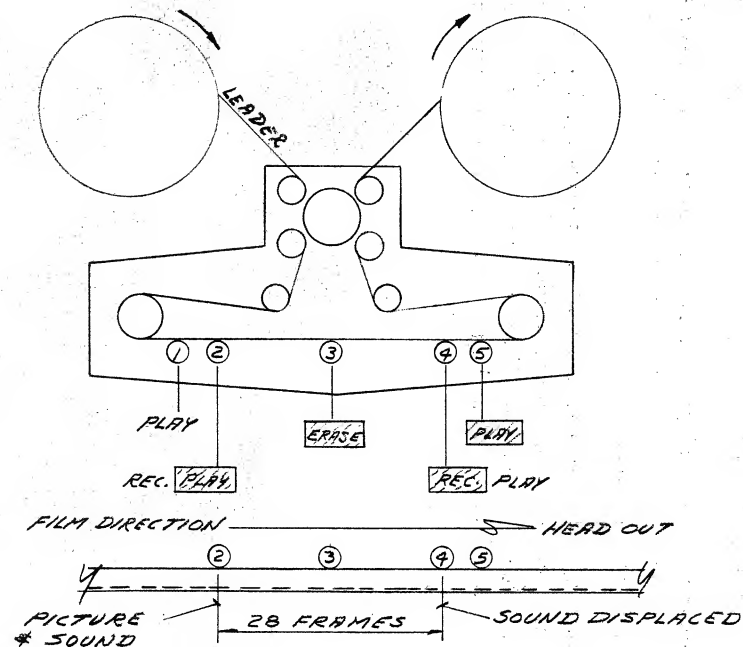
"EDIT-SYNC"  
RE-RECORD SOUND TO SYNC.  
WITH PICTURE



NOTES:-


- TO DISPLACE SOUND FROM 28 FRAMES TO EDIT-SYNC WITH PICTURE, RUN "TAILS" THROUGH EDITOR, AS SHOWN
- HEAD #4, REPRODUCED SOUND IS FED TO HEAD #2 AND RECORDED SYNC-TO PICTURE
- HEAD #3 ERASES SOUND AFTER REPRODUCTION AND BEFORE REC-RECORDING TO "SYNC"
- RE-RECORDED SOUND CAN BE MONITORED FROM HEAD #1

"PROJECT-SYNC"  
RETURN "SYNC" SOUND TO NORMAL  
28 FRAMES DISPLACEMENT



NOTES:-

- TO REPLACE SOUND TO NORMAL 28 FRAME DISPLACEMENT THROUGH RECORDER HEADS AS SHOWN
- HEAD #2 REPRODUCED SOUND IS FED TO REC. HEAD #4 AND REC-RECORDED 28 FRAMES DISPLACED
- HEAD #3 ERASES SOUND AFTER REPRODUCTION AND BEFORE RE-RECORDING HEAD #4
- RE-RECORDED SOUND CAN BE MONITORED FROM HEAD #5

 <p><b>AMEGA</b> 11817 WICKS STREET SUN VALLEY, CALIFORNIA</p>	DRWN. 135	DATE
	CHKD. <i>Stacy 5-166</i>	DATE
	SCALE ~	
	MODEL NO. SE-1	
	PART NO. 1562	

NAME SINGLE SYSTEM SOUND EDITOR

# *The* AMEGA



INTERCHANGEABLE

"MINIATURE" MODULE



This new advance in solid state electronics permits engineers and manufacturers to miniaturize all types of audio equipment with no compromise in quality.

Multi channel recorders, communications and audio consoles line amplifiers and booster amplifiers are only a few of the many uses possible. Two gain stages terminating into a 12-pin plug comprise each module. Input and output transformers are connected at the receptable, low impedance record and reproduce heads can be directly connected, gain controls from 600 ohm ladder attenuators to 10,000 ohm pots can be used.

The module plug is rhodium plated. The overall size is  $\frac{1}{2}$ "x $2\frac{1}{2}$ "x $3\frac{1}{2}$ " long. The housing is .032 thick aluminum which provides shielding when modules are packaged directly adjacent to each other.

Additional specifications and sample circuits will be supplied on request. "Memo" samples will be supplied.

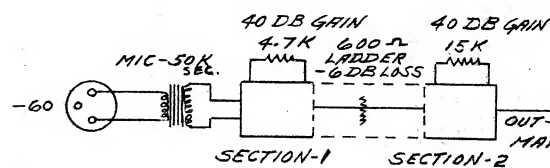


AMEGA

AN AFFILIATE OF OMEGA ENGINEERING COMPANY

11817 WICKS STREET / SUN VALLEY, CALIFORNIA

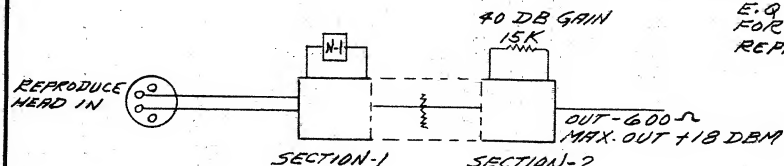
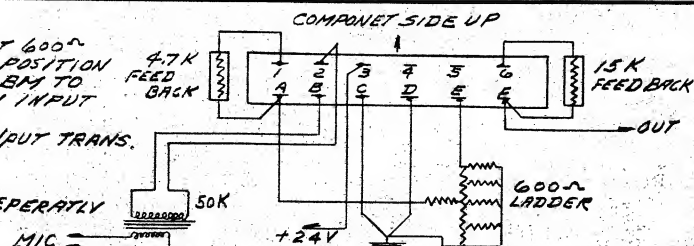




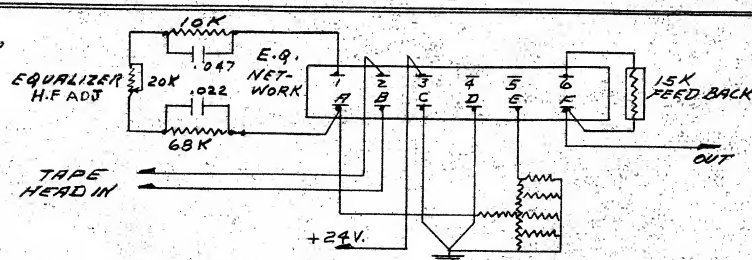
**MIXER MIC CHANNEL**  
 TOTAL GAIN 76 DB POT. MAX. (82 DB WITHOUT 600Ω LADDER) WITH POT AT 12:00 NORMAL POSITION (-24) GAIN = 50 DB THIS FEEDS -10 DBM TO MIXER BUSS. FREQ. RESP. LIMITED BY INPUT TRANS. MODULE 15±1 DB 10~ TO 30 KC.  
 S/N = 65 DB NOT INCLUD HUM RV. BY INPUT TRANS.

NOTE, 5-10K POT CAN BE USED AS GAIN CONTROL

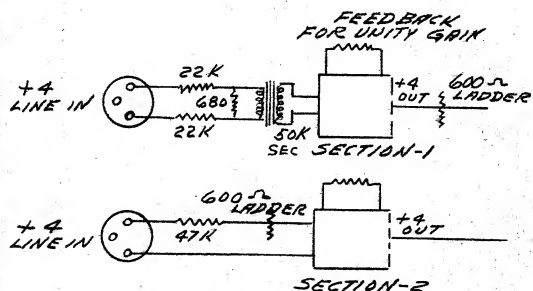
RETURN B-TERM. B & C TO MESA GROUND SEPERATLY



**REPRODUCE AMP**  
 E.Q. NETWORK SHOWN IS DESIGNED FOR USE WITH 50-200 M.H REPRODUCE HEAD



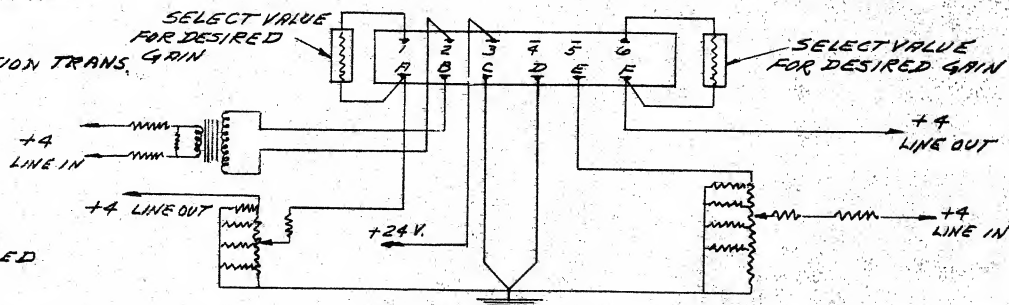
### LINE-BOOST AMP



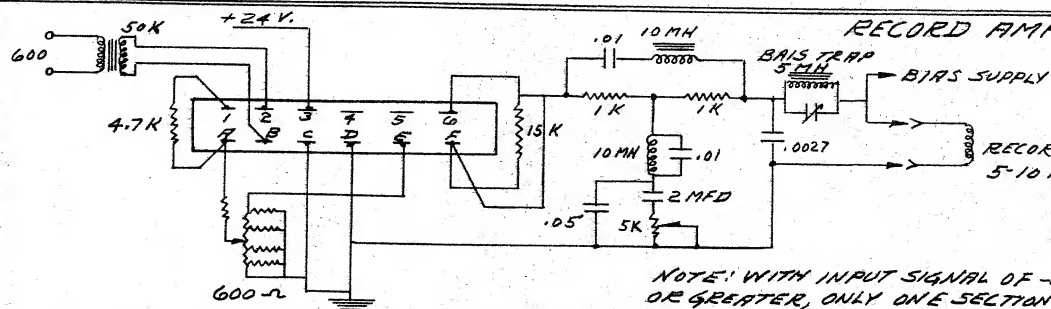
LINE INPUT WITH INSULATION TRANS.

ALTERNATE LINE INPUT WITHOUT INSOLATION

NOTE: AMP CAN BE USED FOR 2 LINE AMPS WITHOUT CROSS TALK



### RECORD AMP



NOTE: WITH INPUT SIGNAL OF -30 DBM OR GREATER, ONLY ONE SECTION REQUIRED

ALL 'AMEGA' PRODUCTS UTILIZE THE INTERCHANGEABLE MODULE. COMPLETE CIRCUIT DATA IS AVAILABLE DESCRIBING NUMEROUS USES FOR ALL TYPES OF AUDIO CIRCUITS. BOTH ENGINEERS AND MANUFACTURERS ARE WELCOME TO 'MEMO' SAMPLES AND ADDITIONAL DATA



**AMEGA**  
 11817 WICKS STREET  
 SUN VALLEY, CALIFORNIA

NAME MODEL MI-2 INTERCHANGEABLE MODULE

DRWN.	J.H.	DATE	8-7-66
CHKD.	Shuf	DATE	8-8-66
SCALE	---		
MODEL NO.	MI-2		
PART NO.	M-I-2		

## AMEGA NEW PRODUCTS PRICE SCHEDULE

E-2	"Slide-Mixer" Two Channels. Uses genuine slide wire attenuators complete with Amega plug-in modules for microphones, preamps, line amplifier and reproduce head monitor. Unit has all features necessary for mixing and can be used as a recording amplifier with the LO-1 line equalizer.	\$1,125.00
LO-1	"Line-Oscillator". Unit can be used with any Amega mixer to supply record head bias and proper equalization. Unit also contains reproduce head preamp, line preamp and equalizer for monitoring tape-direct signal at mixer. Voltage is supplied from mixer power supply.	\$ 215.00
E-12	Three Channel Slide Mixer. Unit is constructed using professional studio components throughout. It is supplied with batteries and built-in charger, two steps of dialogue equalization, mic high level bridge switching for inputs and Amega studio type interchangeable modules. Mixer can be used portable or in studio for mic mixing, transfer, etc.	\$1,297.00
E-14	Three Channel Rotary Attenuator Mixer. Identical to Model E-12 except rotary instead of slide attenuators complete the assembly.	\$1,147.00
S-E-1	Single System Sound Editor. Unit can be used as basic 16 MM edge track recorder for erase, record and reproduce. All features equal to Amega Model A-1 Recorder. The EDIT-SYNC features offer complete versatility and protection when editing single system sound. Prerecorded sound can be equalized and levels balanced during the displacement process.	\$1,950.00
RP-8	Eight Channel 12 Hour Recorder Reproducer with Eight Channel Fail/Safe. Unit erases previously recorded tape. When two units are used, automatic switchover takes place after 12 hours. Failure in any of the eight channels switches unit to sound deck and a pilot light indicates which channel has failed. Amega miniature interchangeable modules for record/reproduce plus a solid state power supply comprises the electronics. Complete installation instructions and name of service man for your area supplied with every system. Modules guaranteed for two years. All other components except heads and parts subject to normal wear guaranteed for one year.	\$1,975.00
Note: Unit normally runs continuously for 12 hours. During period when there is no signal to be recorded, Amega offers a voice actuated relay system to energize recorder. Prices and details on request.		
M-1-2	Miniature Interchangeable Module. Module has multiple applications both in audio and instrumentation fields. Two 40 db gain stages can be used separately with no cross-talk or both stages for higher gain requirements. A 12 pin plug with interstage connections permits external connections for transformers, record/reproduce heads, gain adjustments, equalization components and feed-back networks. Prices for one to ten units.	\$ 79.00

Quantity prices on request. Memo samples available to engineers and manufacturers.

Above prices subject to change without notice.



# MOTION PICTURE SOUND REPRODUCERS

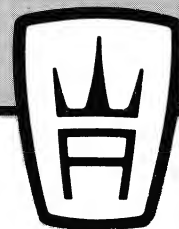
SINGLE

DOUBLE

TRIPLE

COMBINATION

AUTOMATIC



## AMEGA

sound system



# AMEGA

## Motion Picture REPRODUCERS

were designed to have the versatility required for the well equipped studio of today. Several concepts used in the design of the reproducer systems are from Amega developments for the computer and instrumentation fields. A single dubber has more than twenty new features. Output plugs are incorporated for interlock connections with the recorder, projector and for remote control. Mechanical interlock output shafts make it possible to couple two or more units at minimum cost. For example, one selsyn motor will provide interlock for three reproducers with one selsyn at the projector and one at the recorder.

Six Amega reproducer systems provide a selection for the most diversified studio and for the independent producer.

The quality and performance specifications are the same for all models. Only special features and different configurations determine the price variation.

Amega manufactures the complete motion picture sound system incorporating the extraordinary interchangeable module. This new concept permits standardization throughout the entire studio system. As a capital investment, additional items may be added each year with the assurance that your equipment is up-to-date and has constant performance.



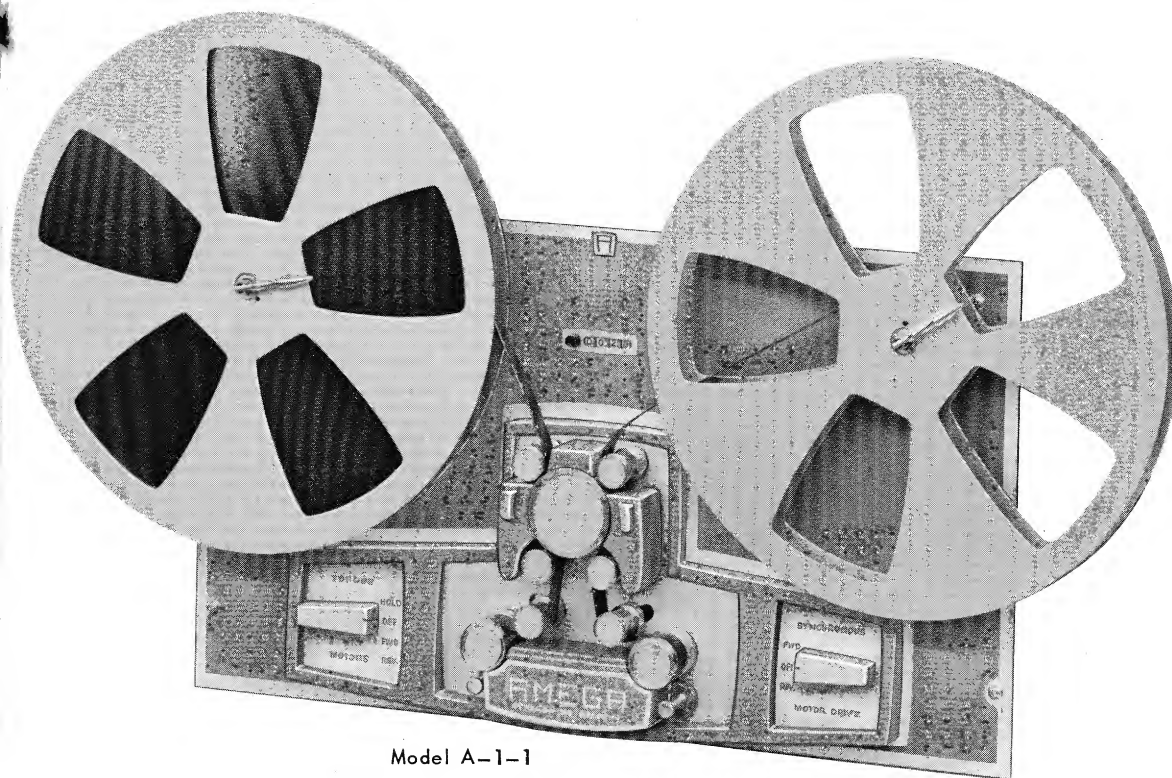
MADE IN U.S.A.

# AMEGA A-1

"standard"

## REPRODUCER

for interlock  
with recorder and projector



Model A-1-1  
Reproducer for Rack Mount

**Film type:** 16mm,

**Tracking:** Edge or center track for 16mm.  
Standard tracking for 17½mm and 35mm.  
Other tracking and heads available.

**Drive:** Salient pole synchronous motor.  
Standard unit 110 volts, 60-cycle, single-phase.  
Available at no extra cost: 50-cycle, single-phase.  
220 volts, single-phase, 50 or 60-cycle.  
220 volts three-phase, 50 or 60-cycle.

**Take-up/Rewind:** Two torque motors with electrical differential for tight wind in either direction.

**Frequency Response:** 45 cps to 10000 cps,  $\pm 2$  db.

**Amplifier Distortion:** Less than 1/4%.

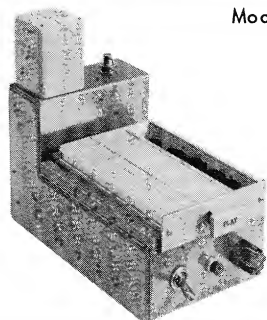
**Signal-to-Noise Ratio:** Better than 58 db.

**Flutter-to-Wow:** 0.15% maximum RMS overall.

The standard reproducer is widely used because of its compactability. The panel size is 10¾" by 19".

Consistent with other Amega units, the A-1 is complete with synchronous motor, two torque motors, four digit foot-age counter and numerous other outstanding features.

The system is ideal for interlock with projector for immediate double system playback of dialogue, music and effects. When used with Model A-1 recorder, transfer of pre-recorded material is simple and fool proof.



Model 1148 Pre-Amp and Power Supply

Each Amega dubber system is supplied with the Model 1148 preamp power supply. These units are interchangeable with recorder or mixer modules. The equalization and gain differences take place at the receptacle.

# AMEGA

## Motion Picture REPRODUCERS

were designed to have the versatility required for the well equipped studio of today. Several concepts used in the design of the reproducer systems are from Amega developments for the computer and instrumentation fields. A single dubber has more than twenty new features. Output plugs are incorporated for interlock connections with the recorder, projector and for remote control. Mechanical interlock output shafts make it possible to couple two or more units at minimum cost. For example, one selsyn motor will provide interlock for three reproducers with one selsyn at the projector and one at the recorder.

Six Amega reproducer systems provide a selection for the most diversified studio and for the independent producer.

The quality and performance specifications are the same for all models. Only special features and different configurations determine the price variation.

Amega manufactures the complete motion picture sound system incorporating the extraordinary interchangeable module. This new concept permits standardization throughout the entire studio system. As a capital investment, additional items may be added each year with the assurance that your equipment is up-to-date and has constant performance.



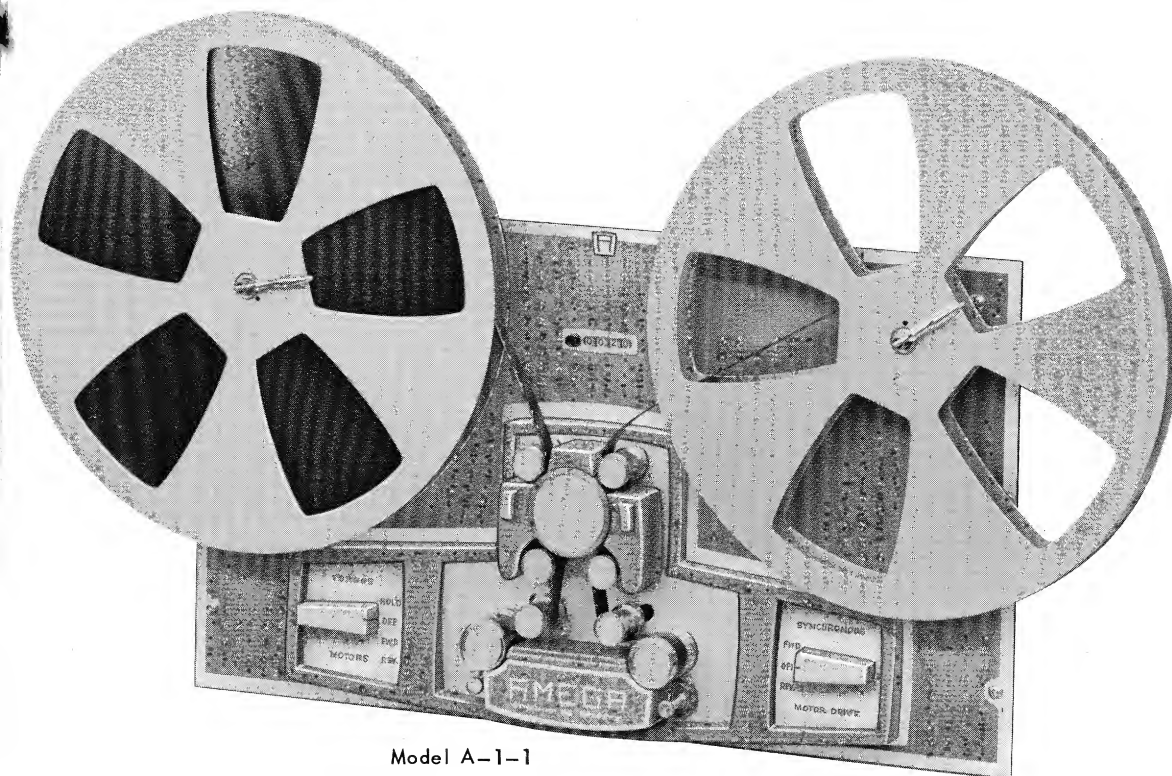
MADE IN U.S.A.

# AMEGA A-1

"standard"

## REPRODUCER

for interlock  
with recorder and projector



Model A-1-1  
Reproducer for Rack Mount

**Film type:** 16mm,

**Tracking:** Edge or center track for 16mm.  
Standard tracking for 17½mm and 35mm.  
Other tracking and heads available.

**Drive:** Salient pole synchronous motor.  
Standard unit 110 volts, 60-cycle, single-phase.  
Available at no extra cost: 50-cycle, single-phase.  
220 volts, single-phase, 50 or 60-cycle.  
220 volts three-phase, 50 or 60-cycle.

**Take-up/Rewind:** Two torque motors with electrical differential for tight wind in either direction.

**Frequency Response:** 45 cps to 10000 cps,  $\pm 2$  db.

**Amplifier Distortion:** Less than 1/4%.

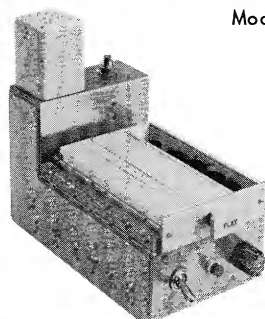
**Signal-to-Noise Ratio:** Better than 58 db.

**Flutter-to-Wow:** 0.15% maximum RMS overall.

The standard reproducer is widely used because of its compactability. The panel size is 10¾" by 19".

Consistent with other Amega units, the A-1 is complete with synchronous motor, two torque motors, four digit foot-age counter and numerous other outstanding features.

The system is ideal for interlock with projector for immediate double system playback of dialogue, music and effects. When used with Model A-1 recorder, transfer of pre-recorded material is simple and fool proof.



Model 1148 Pre-Amp and Power Supply

Each Amega dubber system is supplied with the Model 1148 preamp power supply. These units are interchangeable with recorder or mixer modules. The equalization and gain differences take place at the receptacle.



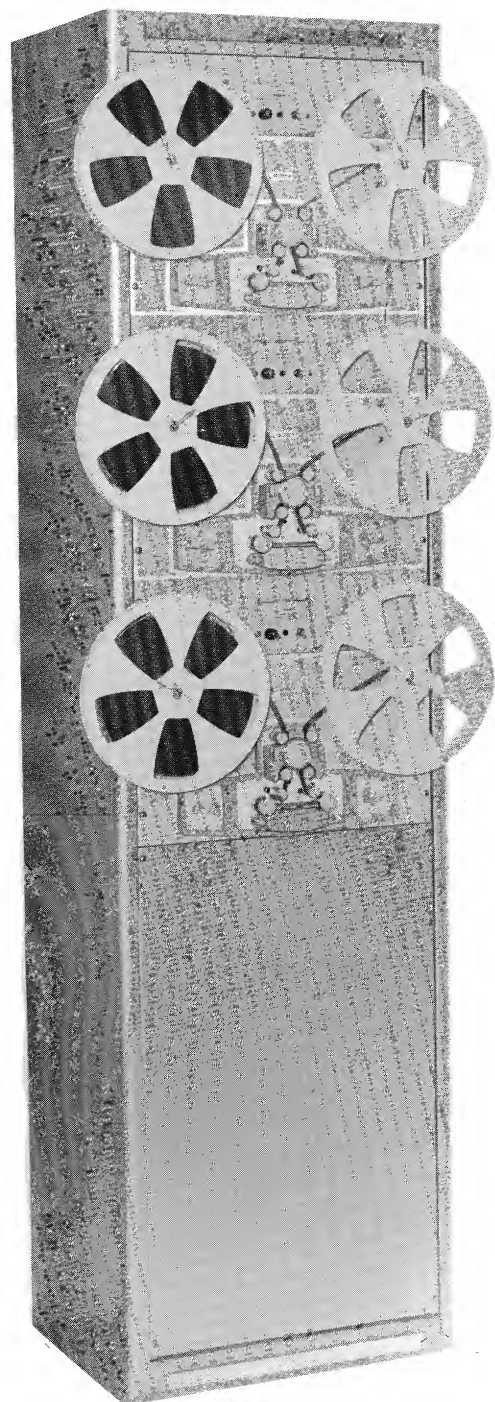
# AMEGA A-1

"standard"

## TRIPLE REPRODUCER FOR

MUSIC - DIALOGUE - SOUND EFFECTS.

INTERLOCK WITH RECORDER AND PROJECTOR



MODEL A-1-3 THREE POSITION DUBBER

MECHANICALLY INTERLOCKED

MODEL A-1-3-S ELECTRICALLY INTERLOCKED

The Model A-1-1 Dubber system was especially designed for studios where space is at a premium. The space saving design features high quality with specifications to industry standards.

Dubber has mechanical interlock when two or three units are used for music, dialogue and sound effects. Interlock motors can be attached to system for locking projector and recorder. Interlock components are available for both portable and rack mount units.

Model A-1 single channel dubber re-recorder has identical features to Model A-1 recording system.

### TRANSPORT

4-digit footage counter is chain interlocked with synchronous drive motor.

Head cover is removable for ease in cleaning heads and marking film for editing. Drive mechanism features ball bearing dampening system, noiseless 20-tooth sprocket ball bearing rollers and sprocket film pads which engage 4 teeth on both sides of sprocket.

Torque motors controlled for holding position during standby, fast forward and fast rewind.

Synchronous motor control for forward and reverse switching.

Two torque motors with electric differential for take up and hold back. Unit rewinds film tightly in either direction.

Plug-in head assemblies are interchangeable from one unit to the other. Housing is removable for maintenance cleaning of heads and for film marking during editing.

### PREAMPLIFIER

play-back preamplifier features modular construction and is interchangeable with recorder preamplifier.

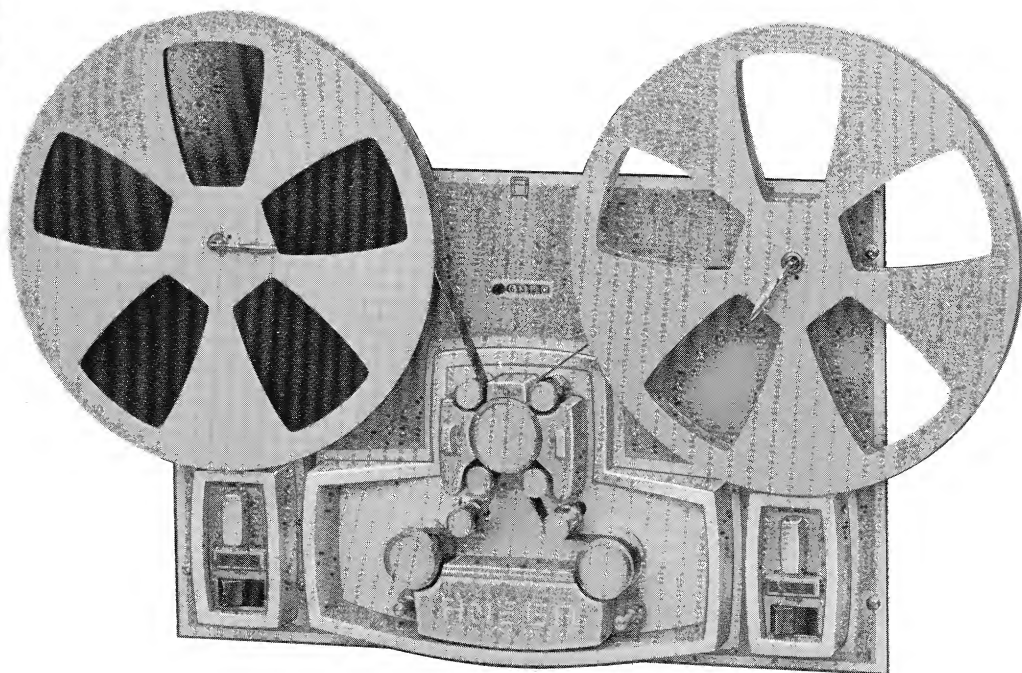
Preamplifier output is 600 ohms 0 level with power supply and output transformer.





# AMEGA M-2

## "heavy duty" REPRODUCER



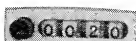
Model M-2-2 Single Reproducer

Instrumentation type split-apart reels are for ease in loading film. Two 1200' capacity reels are furnished with M-2 reproducer.

Two torque motors for take-up and rewind have electrical differential in torque for hold-back and take-up. Film is wound tight in either direction.

New ball bearing dampening system holds flutter and wow to less than .15% for 16mm and 0.1% for 35mm.

4-digit footage counter has push button reset.

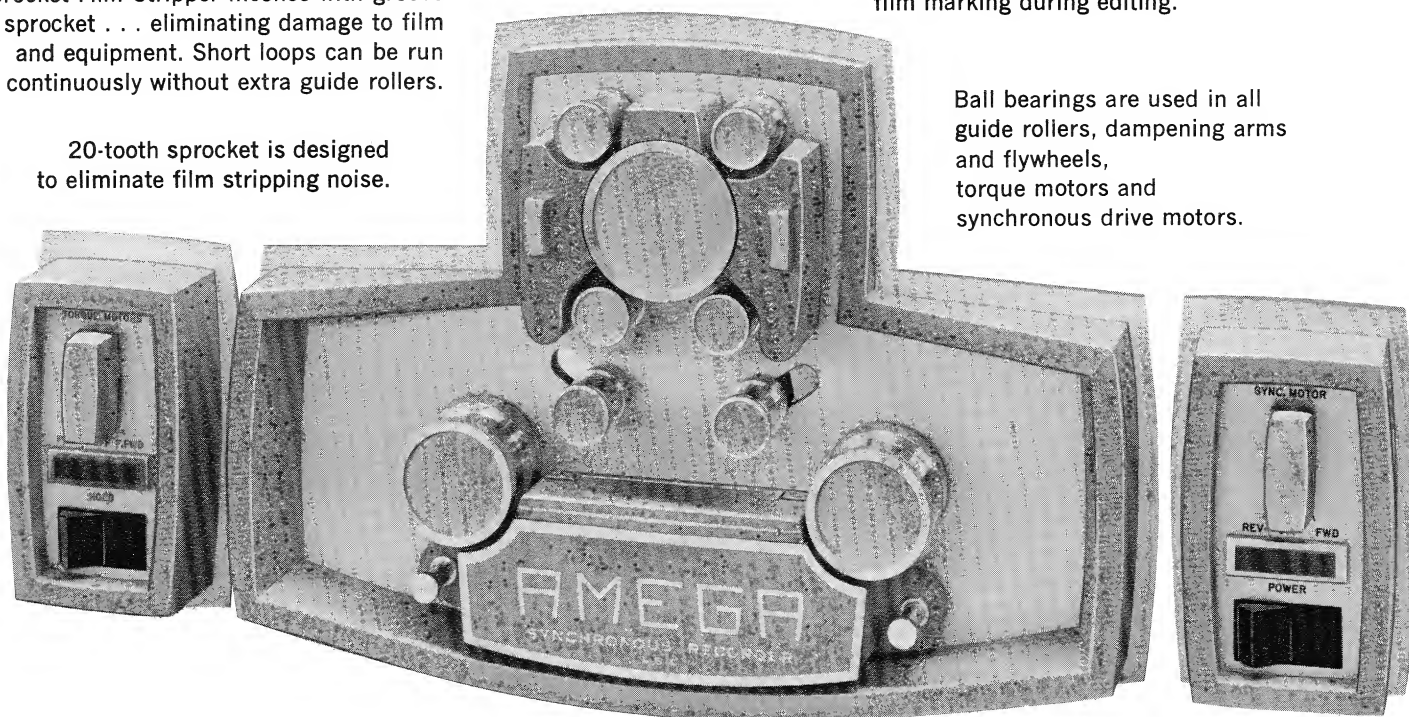


Sprocket Film Stripper meshes with groove in sprocket . . . eliminating damage to film and equipment. Short loops can be run continuously without extra guide rollers.

20-tooth sprocket is designed to eliminate film stripping noise.

Plug-in head assemblies are interchangeable from one unit to the other. Housing is removable for maintenance cleaning of heads and for film marking during editing.

Ball bearings are used in all guide rollers, dampening arms and flywheels, torque motors and synchronous drive motors.



MADE IN U.S.A.



# AMEGA M-2

"heavy duty"

## TRIPLE REPRODUCER

Designed with heavy duty features for 24 hour continuous operation. Large brass flywheels dampen the film motion for when splices are used. The M-2 system has all the modern features required for today's up-to-date studio!

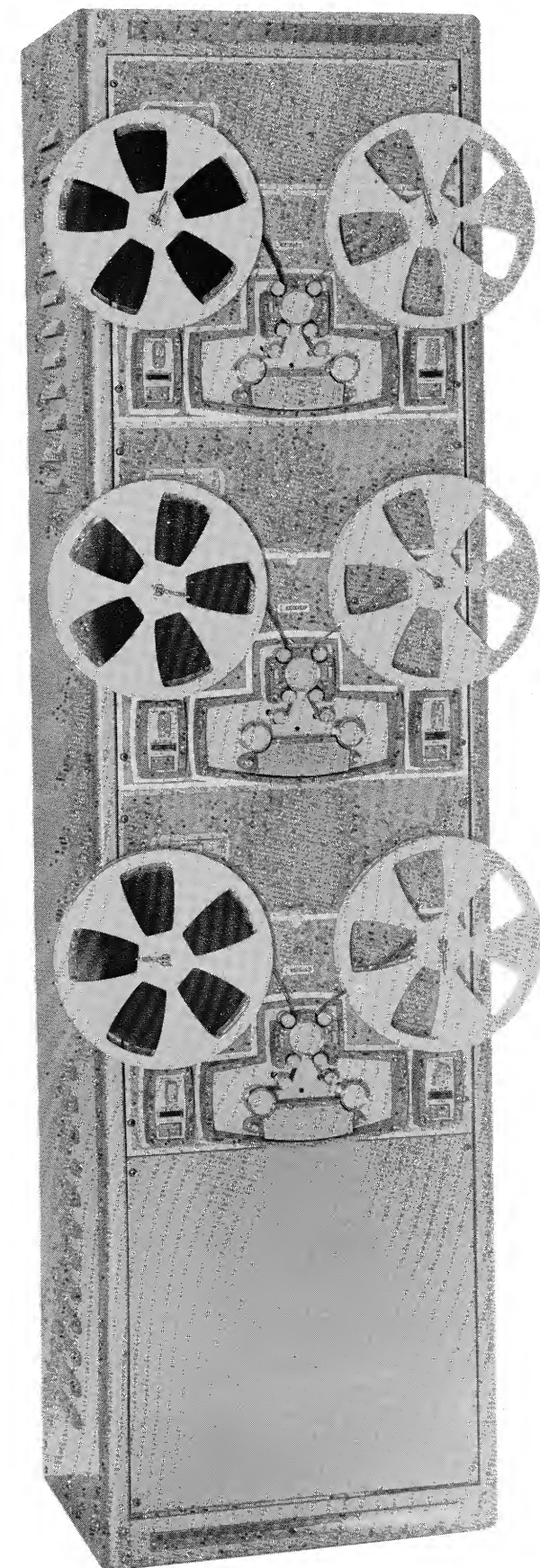
Two torque motors for take-up and rewind have electrical differential in torque for hold-back and take-up. Film is wound tight in either direction.

New ball bearing dampening system holds flutter and wow to less than .15% for 16mm and 0.1% for 35mm.

4-digit footage counter has push button reset. Sprocket Film Stripper meshes with groove in sprocket . . . eliminating damage to film and equipment. Short loops can be run continuously without extra guide rollers.

20-tooth sprocket is designed to eliminate film stripping noise.

Plug-in head assemblies are interchangeable from one unit to the other. Housing is removable for maintenance cleaning of heads and for film marking during editing.



MODEL M-2-3 THREE POSITION DUBBER  
MECHANICALLY INTERLOCKED  
MODEL M-2-3-S ELECTRICALLY INTERLOCKED

### PREAMPLIFIER:

Modular plug-in Play preamplifier assembly is self-contained with power supply and output transformer. 7" x 19" panel also mounts interlock motor.



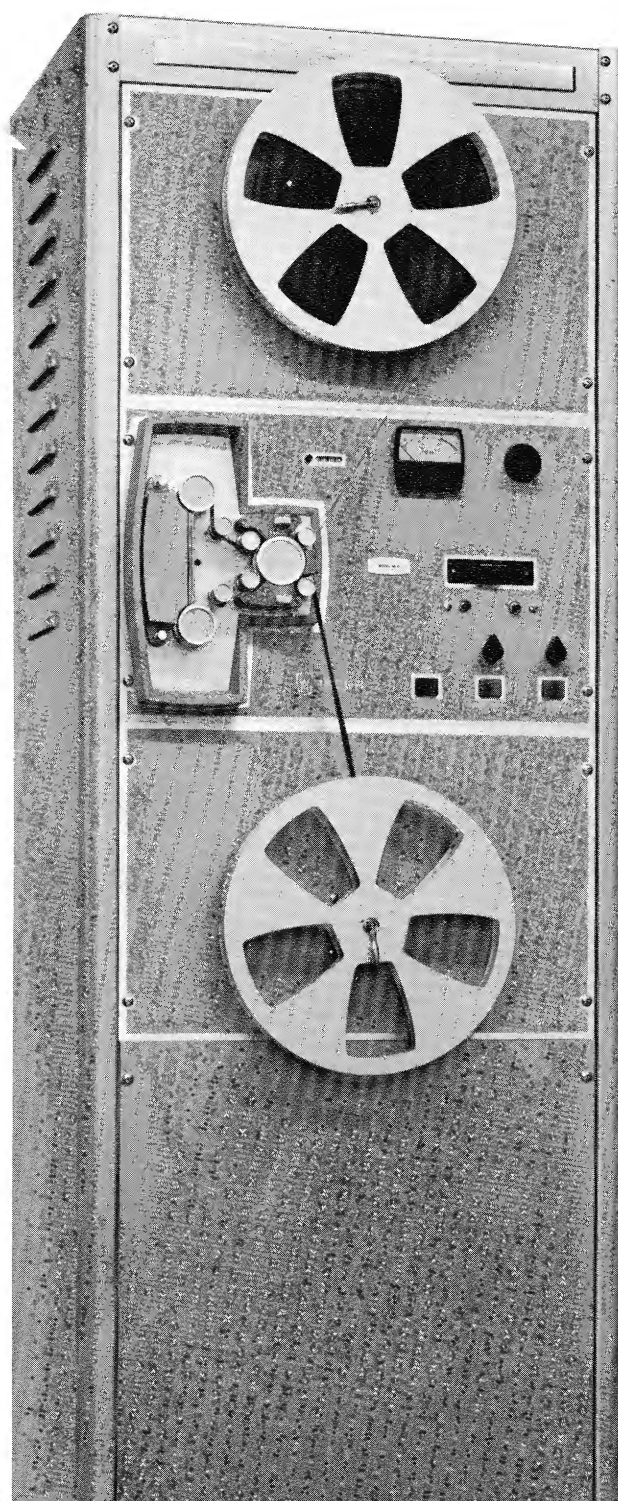
# AMEGA M-5 "studio" REPRODUCER SYSTEM

## PUSH-BUTTON "LOCAL" AND "REMOTE CONTROL

The M-5 was designed for the 35MM studio requirements – each unit complete with Sync Motor. Two Torque Motors reproduce pre-amp power supply and 77" Rack Cabinet. 3,000 ft. capacity.

To show progress for the modern studio and to meet the needs for rapid transfer and rerecording, the Model M-5 has illuminated push button controls. The system can be remote to the mixing console with complete switching for all functions.

To maintain consistency from all type recorded tracks an output meter and gain control are included. Levels can be preadjusted to meet rerecording requirements. Equipment can be maintained periodically without the need of test equipment. SMPTE standards films can be reproduced for checking azimuth alignment, frequency response and output levels.



Available 16-17½-35MM

The Heavy Duty concept reflects itself throughout the M-5 system. Large brass fly-wheels are used for the filtering loop. Large film drums permit numerous splices to run through the transport with minimum wow and flutter.

More than twenty new features are included for ease of operation, minimum maintenance and maximum output fidelity.

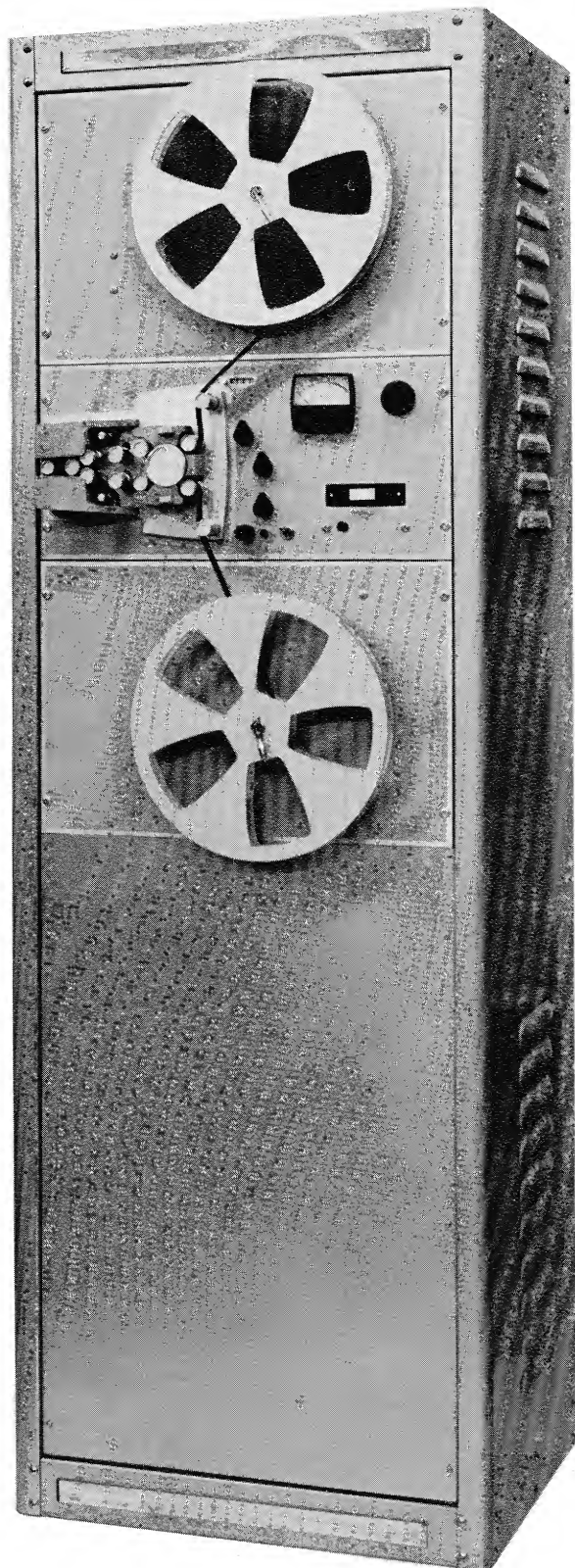
All moving parts are completely ball bearinged including the dampening system. If the requirements are for around the clock operation, the M-5 system will meet the test.



SEND FOR ACTUAL PHOTOGRAPHS AND ADDITIONAL DATA



# AMEGA M-6 "mono" COMBINATION



16-35MM • 36fpm 90fpm  
17½-35MM • 45fpm 90fpm  
16-17½-35 • 36fpm 45-90fpm

## AMEGA INSTRUMENTATION DRIVE

The drive mechanism included in the M-6 was designed by Amega for the computer and instrumentation fields. It features minimum distortion from splices and maximum head contact. Since the sync motor drives direct to the sprocket, it permits different speed combinations and film sizes.

For studios where there is a wide variety of film types being reproduced, the operator need only select the speed applicable to the film type and switch in the proper equalization.

Amega has pioneered the switchable equalizer system to meet the needs of world-wide standards. Additionally, the M-6 has an output meter and gain control so that various output levels can be preadjusted for the final dubbing or transfer process.

The units shown are complete with a sync motor, two torque motors, rack cabinets and power supply.





# M-7 AMEGA

# "duo"

## COMBINATION

**TWO 16MM DUBBERS INTERLOCKED**

**TWO 35MM DUBBERS INTERLOCKED**

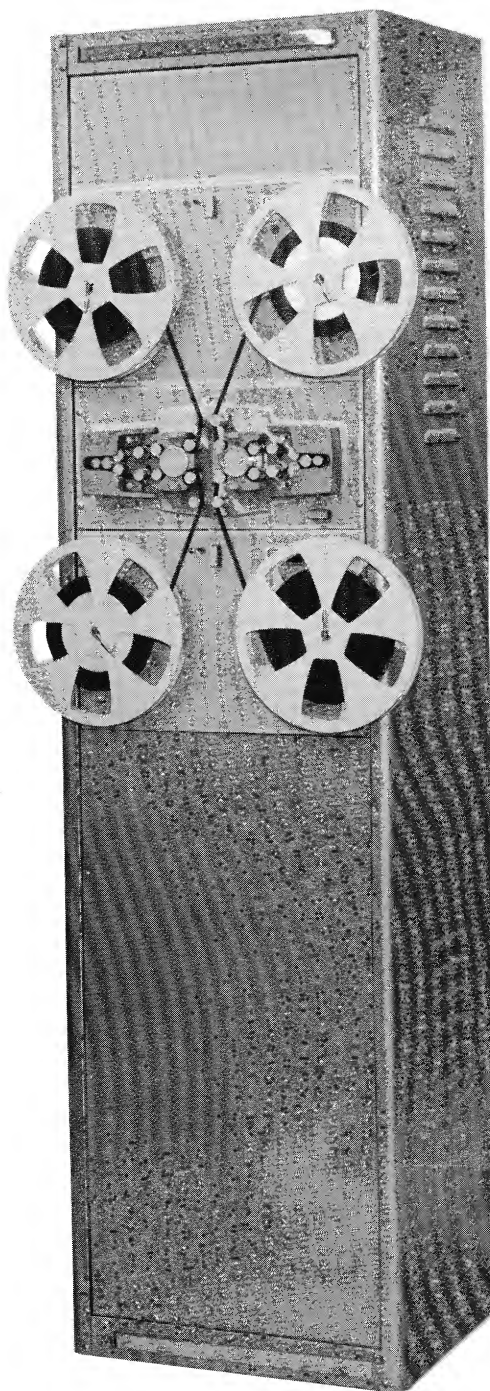
**ONE 16MM ONE 35MM INTERLOCKED**

**36fpm 90fpm 45-90fpm**

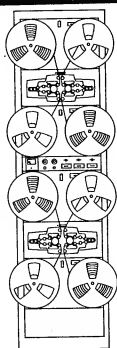
**17½MM INTERCHANGEABLE WITH 35MM**

For the independent producer or the most diversified sound studio, the M-7 provides the ideal in convenience. For the busy operator, proper threading height is a "must". The multiple speed combinations include all contemporary standards with a wide variety of equalization selections.

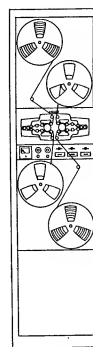
The two transports can be mechanically interlocked at no extra cost. One selsyn motor permits interlock with projector or recorder. With the addition of a record amplifier, the unit becomes a complete transfer reproducer rerecorder mastering system.



Four units can be mounted in a single rack cabinet, three reproducers for music, dialogue and effects, with one unit as the master recorder.



Configuration as shown permits several cabinets to be mounted directly adjacent to each other. Film capacity 2,000 feet.



# NEW FEATURES INCORPORATED IN ALL AMEGA DUBBERS

1. INTERCHANGEABLE PLUG-IN AMPLIFIER MODULES.
2. "SPACE AGE" ENCAPSULATION PREVENTS DAMAGE AND ASSURES RELIABILITY.
3. ENVIRONMENTAL TESTS TO MEET SPECIFICATIONS ON ALL UNITS.
4. DEVELOPED TO MEET STANDARDS FOR U.S. AGENCIES' MOTION PICTURE UNITS OPERATING THROUGHOUT THE WORLD.
5. PLUG-IN INTERCHANGEABLE HEAD ASSEMBLIES.
6. PRECISION CAST HEAD ASSEMBLY ENCLOSURE EASILY REMOVABLE FOR CLEANING AND MARKING.
7. NEW BALL BEARING DAMPENING SYSTEM ASSURES THAT FLUTTER AND WOW WILL BE HELD TO SPECIFICATIONS UNDER ALL OPERATING CONDITIONS.
8. TWO BALL BEARING GENUINE TORQUE MOTORS ON ALL RECORDERS AND DUBBERS.
9. ELECTRICAL TORQUE DIFFERENTIAL FOR TIGHT WIND IN EITHER DIRECTION.
10. NEW STRIPPER FOR SPROCKET ENABLES OPERATOR TO RUN SHORT LOOPS WITHOUT DAMAGE TO FILM OR EQUIPMENT.
11. SPROCKET PADS ENCOMPASS FOUR TEETH ON EACH SIDE TO ELIMINATE DAMAGE TO FILM WHEN STARTING OR STOPPING MECHANISM.
12. REMOTE MOTOR CONTROL OUTPUT PLUG ON ALL RECORDERS AND DUBBERS.
13. SYNC SELSYN OR DISTRIBUTOR CONTROLS CAN BE PLUGGED IN WITH PREFABRICATED INTERCONNECTING CABLES. NO COMPLICATED WIRING IS REQUIRED.
14. NEW ACCURACY FOR FILM THREADING. WHEN SPROCKET PADS ARE OPEN, DAMPENING ARMS ARE LOCKED FOR PRECISE THREADING. PROPER TENSION IS APPLIED WHEN PADS ARE CLOSED.
15. 20 TOOTH SPROCKET IS DESIGNED TO ELIMINATE FILM STRIPPING NOISE.
16. FOUR DIGIT PUSH BUTTON FOOTAGE COUNTER IS SPROCKET DRIVEN FOR ACCURACY.
17. INSTRUMENTATION TYPE SPLIT APART REELS. TWO REELS ARE FURNISHED WITH ALL AMEGA RECORDERS AND DUBBERS
18. ALL AMEGA PARTS ARE MADE FROM PRECISION DIES AND TOOLING TO ASSURE INTER-CHANGEABILITY.
19. DIRECT SYNC DRIVE.
20. INTEGRATED GEAR HEAD.
21. INTERLOCK OUTPUT SHAFT FORWARD-REVERSE.

## AMEGA GENERAL SPECIFICATIONS

The Quality and Performance Specifications are the same for all models. Only the special features and different configurations determine the price.

**Film type:** 16mm, 17½mm and 35mm.

**Tracking:** Edge or center track for 16mm.  
Standard tracking for 17½mm and 35mm.  
Other tracking and heads available.

**Drive:** Salient pole synchronous motor.  
Standard unit 110 volts, 60-cycle, single-phase.  
Available at no extra cost: 50-cycle, single-phase.  
220 volts, single-phase, 50 or 60-cycle.  
220 volts three-phase, 50 or 60-cycle.

**Take-up/Rewind:** Two torque motors with electrical differential for tight wind in either direction.

**Frequency Response:** 45 cps to 10000 cps, ± 2 db.

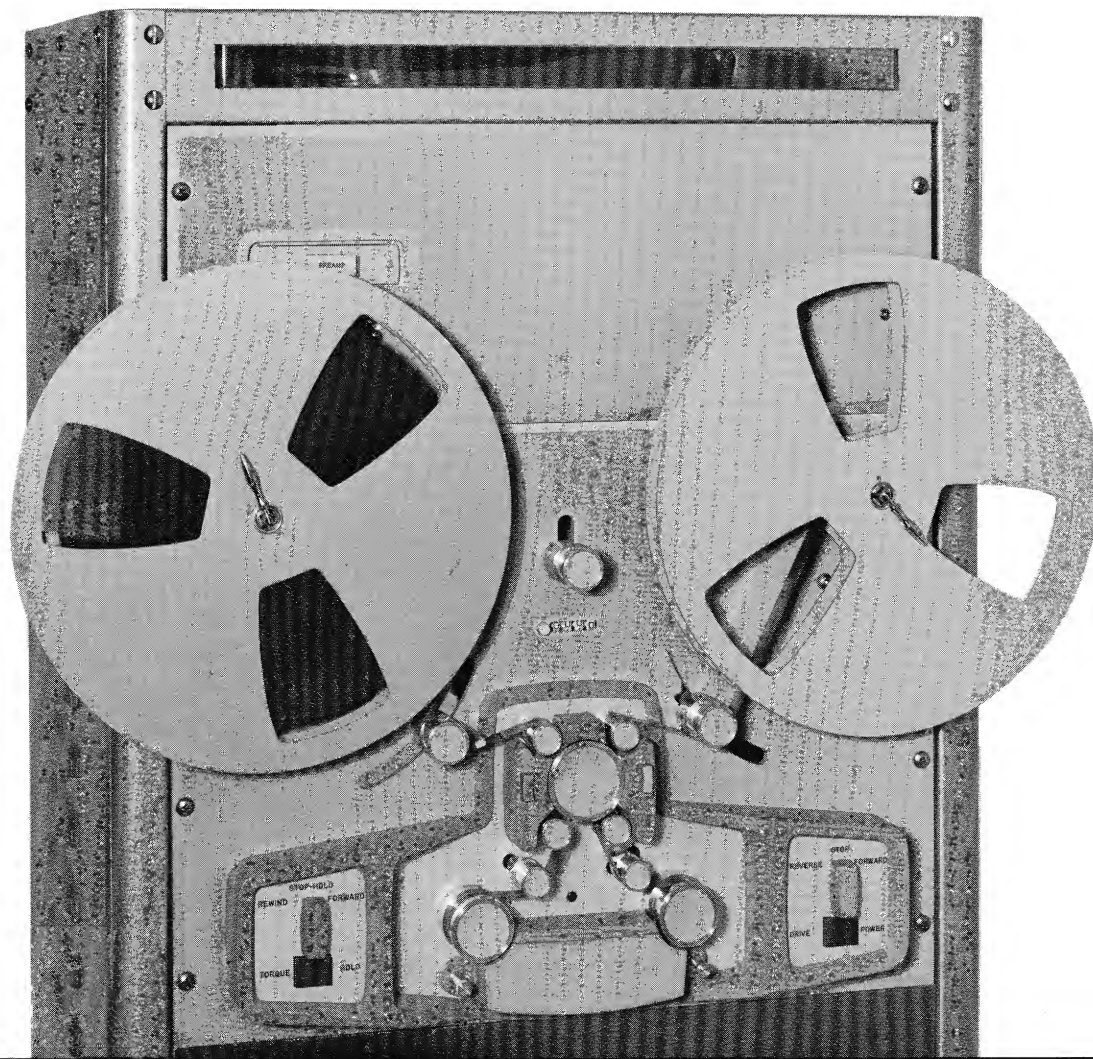
**Amplifier Distortion:** Less than 1/4%.

**Signal-to-Noise Ratio:** Better than 58 db.

**Flutter-to-Wow:** 0.15% maximum RMS overall.  
0.1% maximum RMS overall for 35mm



# *The* AMEGA M-1 "AUTOMATIC"



The M-1 Automatic has several new innovations. The instant stop start feature permits successive transfer of dialogue scene to scene. By remote control, sequences of dialogue can be synced to the picture for the final rerecording process.

All normal functions are included plus fast forward fast reverse through the sprocket. The Amega direct motor drive can be controlled at variable speeds for advancing or retarding from one to five frames within seconds. Actual photographs and additional information are available upon request.

## INSTANT STOP-START

FAST FWD.-REV. THRU SPROCKET





# PLEASE SEND ADDITIONAL INFORMATION

## ON AMEGA DUBBERS

A-1 "Standard" \_\_\_\_\_

M-1 "Automatic" \_\_\_\_\_

M-2 "Heavy Duty" \_\_\_\_\_

M-5 "Studio" \_\_\_\_\_

M-6 "Mono" \_\_\_\_\_

M-6 "Mono" combination \_\_\_\_\_

M-7 "Duo" \_\_\_\_\_

M-7 "Duo" combination \_\_\_\_\_

Recorders \_\_\_\_\_

Interlock Equipment \_\_\_\_\_

Mixers \_\_\_\_\_

Consoles \_\_\_\_\_

Components \_\_\_\_\_

Equalizers \_\_\_\_\_

Transolvers \_\_\_\_\_

1/4" Tape \_\_\_\_\_

Amplifiers \_\_\_\_\_

Heads \_\_\_\_\_

Microphones \_\_\_\_\_

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## AMEGA

*The most progressive name in Motion Picture Sound*

Manufacturers of Motion Picture Sound Devices

AN AFFILIATE OF OMEGA ENGINEERING COMPANY

11817 WICKS STREET / SUN VALLEY, CALIFORNIA

### WARRANTY:

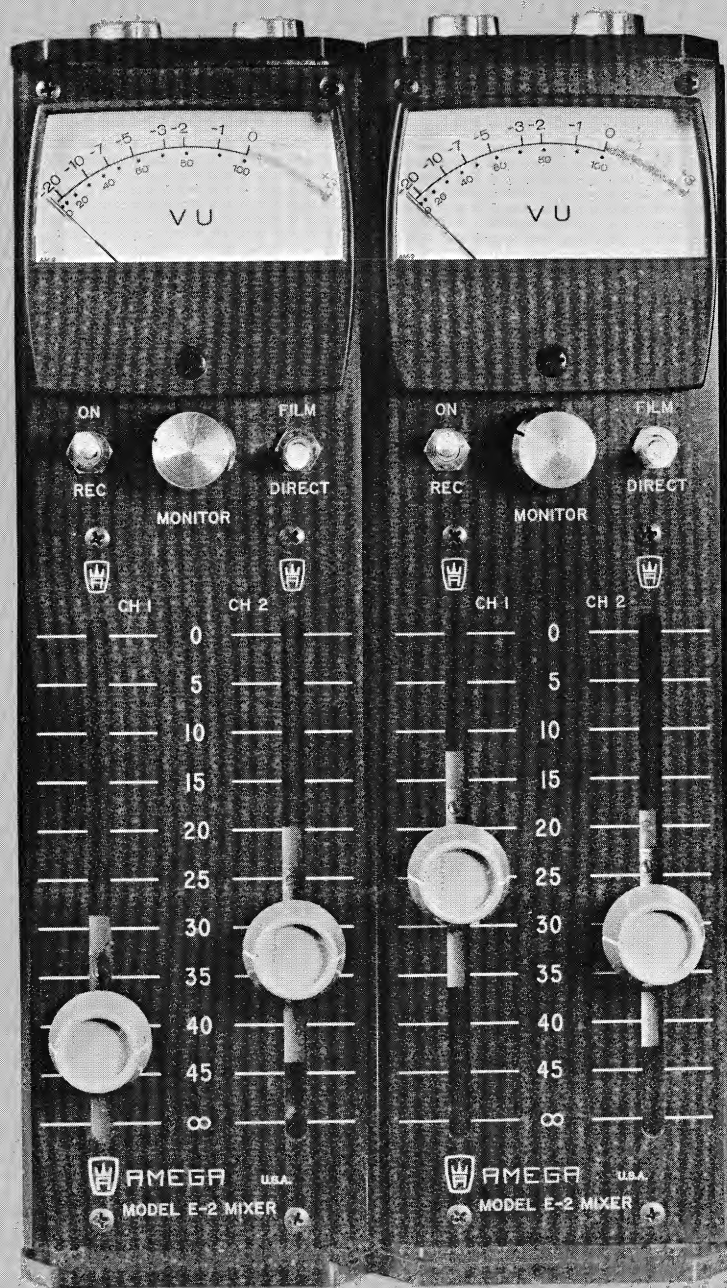
All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone pre-amplifier will be replaced as complete boards by your dealer or the factory.

Defective mechanical and electronics components will be replaced on exchange basis. Replacement parts will be shipped air mail without charge to the customer to any part of the world. Record and play heads are guaranteed except for normal wear. No claims under the guarantee will be entertained if parts have been misused or abused.

MADE IN U.S.A.

# AMEGA

## PORTABLE MIXERS



# AMEGA

## E-12 3-CHANNEL

### "SLIDE-MIXER"

Designed for both portable and studio mixing the Model E-12 has studio features and uses studio console components. Two steps of dialogue equalization for each channel, mike, high level and bridge inputs. Four units can be coupled together for 12 microphones, 12 bridge inputs or a combination of both.

"Mixer" can carry unit over shoulder or use as a console.



# AMEGA

## INTERCHANGEABLE MODELS

Three microphone preamps and one line amplifier comprise the solid state electronics. Each module is guaranteed for two years on an exchange basis. Every unit is interchangeable with all Amega studio audio equipment.







# AMEGA

## E-2 "MINIATURE" Portable



### AMEGA E-2 SLIDE MIXER

This unit is a new concept in miniaturization. In spite of its compactness studio components are still used. The Model E-2 can be used as a straight mixer and/or as a recording amplifier for single system cameras or tape decks.



### MODEL E-14 PORTABLE MIXER

This unit is identical to the Model E-12, except it uses precision rotary studio type attenuators. The choice of this unit is only a matter of preference to the operator.



### MODEL LO-1 "LINE-OSCILLATOR"

The Amega LO-1 "line-oscillator" equalizer permits using any mixer as a recording amplifier. Termination must be 600 ohms zero level. This in-line device also contains a preamp for a reproduce head. All Amega mixers have "tape-direct" switching so both record and reproduce signals can be alternately monitored.



# SPECIFICATIONS

The models E-12 and E-14 utilize the Amega studio interchangeable module. These units can be used for recording, mixing, reproducing line and booster amplifiers. The Model E-2 uses the Amega "miniature" interchangeable module. The specifications on both units are identical.

MICROPHONE INPUT IMPEDENCE 50 or 250 ohms  
BRIDGE INPUT 10,000 ohms BRIDGING - 20 to +24 INPUT  
HIGH LEVEL INPUT FOR MINUS 30 DB to ZERO LEVEL  
DIALOGUE QUALIZATION IN TWO STEPS WITH ROLLED  
OFF AT 300 CYCLES OR 500 CYCLES  
SIGNAL TO NOISE RATIO 65 DB  
FREQUENCY RESPONSE 20 to 20,000 CYCLES  $\pm 1$  DB  
DISTORTION .5% OR LESS OVERALL  
POWER REQUIREMENTS 24 VOLTS 3.6 M.A.  
RECHARGEABLE NICKEL CADMIUM BATTERIES WITH  
BUILT IN CHARGER.  
SIZE E-12 E-14 5" x 6" x 14"  
SIZE E-2 3" x 5" x 10"

---

## WARRANTY

The Amega interchangeable modules are guaranteed for a period of two years on an exchange basis. All other components, except batteries, are guaranteed for one year except for normal wear. Batteries are guaranteed by the manufacturer provided dissipation and recharge instructions have been followed.



AMEGA

*The most progressive name in Motion Picture Sound*

Manufacturers of Motion Picture Sound Devices

AN AFFILIATE OF OMEGA ENGINEERING COMPANY

11817 WICKS STREET / SUN VALLEY, CALIFORNIA

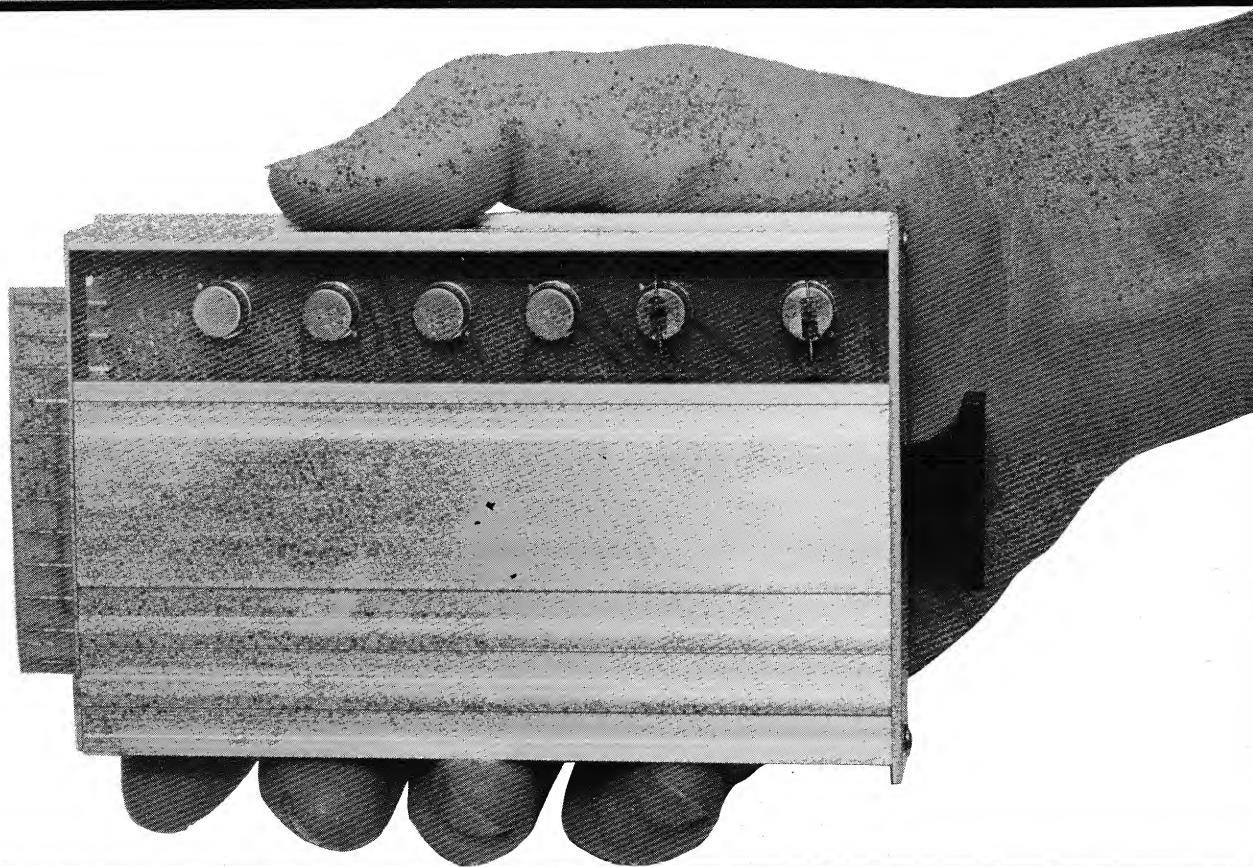
---



# AMEGA

## INTERCHANGEABLE

## MODULAR AMPLIFIER SYSTEM



**AMPLIFIERS — MIXERS — CONSOLES**

**FOR MOTION PICTURE STUDIOS**

# THE AMEGA MODULE SYSTEM

Amega has been the pioneer of the interchangeable audio module. The units were developed for sound recording and international communications.

For motion picture recording, the entire studio can be standardized with only one type interchangeable amplifier. Heretofore, most recorders have been made up of integrated chassis coupled with the film transport. Input output impedances had variation from one unit to the other and different methods of equalizing were usually employed.

With the modular system, the basic amplifier terminates to a 12 pin plug. Transformers, equalizers and gain controls are coupled *externally* which achieves the versatility required. The module has 90 db gain and when coupled to the input transformer, totals 100 db which is adequate for the average low level microphone. As a recording amplifier, the cradle enclosure provides space for equalizing components, gain adjustments and the necessary plugs and receptacles. As a playback amplifier, low impedance heads can be directly coupled to the first stage of the amplifier. The gain control is interstage connected and the output transformer is connected through the cradle receptacle. Fixed gain adjustments can be made interstage and feed back adjusted as may be desired. The basic module is never changed.

For mixers and consoles, the module can be used as a microphone preamp, line amplifier, booster amplifier. A 600 ohms attenuator can be connected interstage and low impedance mixing networks can be accomplished.

Amega now offers complete individual assemblies from microphone to final output amplifier. Many studios have gone through a retro fit program installing these units for the complete audio chain. Low impedance heads are available for adaptation to existing film transports. Mixing components are also supplied with complete instructions.





C  
O  
M  
M  
U  
N  
I  
C  
A  
T  
I  
O  
N  
S

# AMEGA

# AMPLIFIERS

For

MOTION PICTURE RECORDING

MIXERS

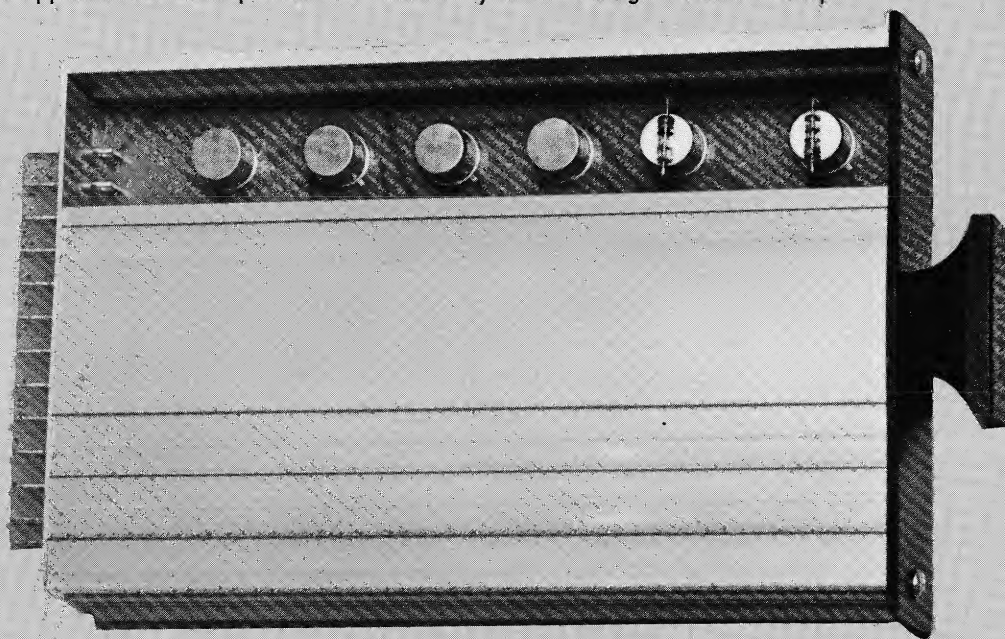
CONSOLES

RECORDERS

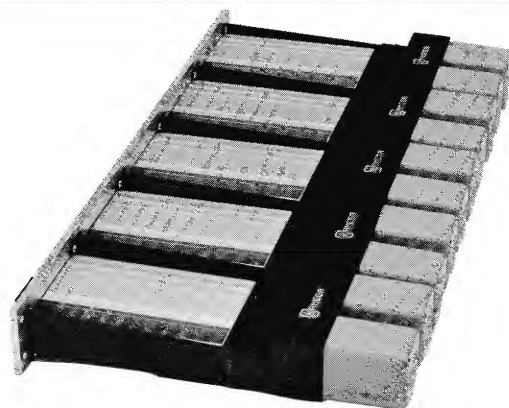
REPRODUCERS

Basic module shown with transistors exposed has Amega proprietary design including the extruded enclosure and end plates. The circuit board slides into special grooves and can be easily removed with two screws. Enclosure protects circuit board from flexing or mishandling which could damage printed circuit. Modules are unconditionally guaranteed for one year on an exchange basis.

With modular system, audio maintenance for a complete studio requires only one spare module. The reliability of transistors is undisputed. Computer, telemetering, instrumentation and communications applications have proven the versatility of the Amega module concept.



1 $\frac{3}{4}$ " x 19" will mount a two microphone input, record and reproduce audio system. Five line amplifiers can be likewise accommodated.



# AMEGA E-1 MIXER



A NEW MIXER FOR PORTABLE OR STUDIO USE UTILIZING THE LATEST ENGINEERING ADVANCES. DESIGNED WITH "CONTINUED PERFORMANCE" FEATURES FOR MOTION PICTURE RECORDING AND DUBBING.

FOUR MICROPHONE INPUTS

FOUR BRIDGING INPUTS

TWO POSITION DIALOGUE EQUALIZATION WITH INDICATOR LIGHTS IN EACH CHANNEL

PLUG-IN TRANSISTOR AMPLIFIERS

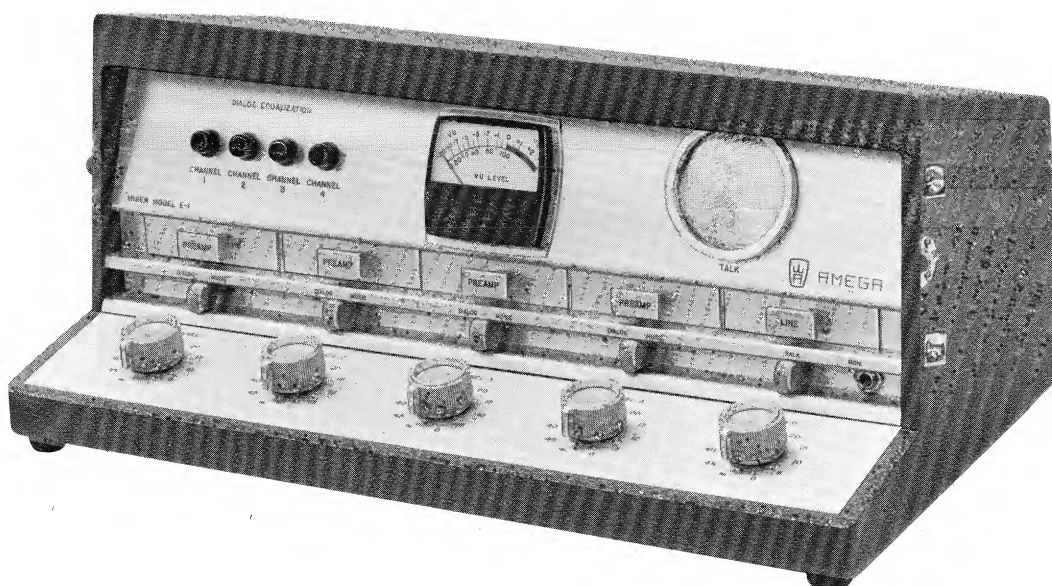
LOW HEAT AND POWER DRAIN

NO MICROPHONICS

MIC PREAMPS MAY BE SUBSTITUTED FOR LINE AMP

LEVEL SET / BLOOP OSCILLATOR

TALK / SLATE MICROPHONE



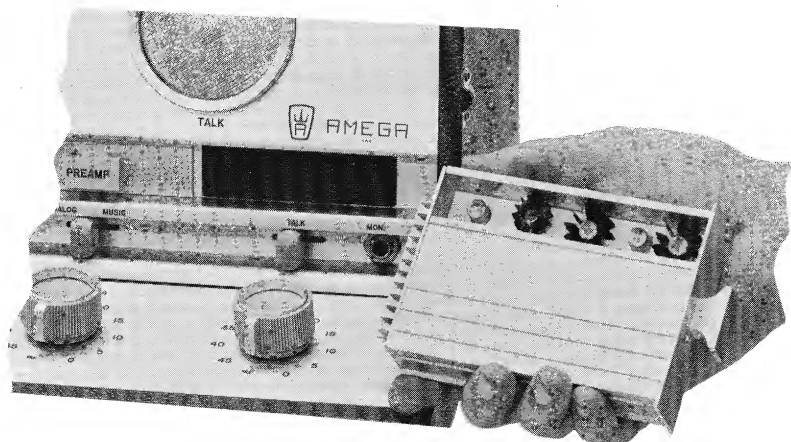
MICROPHONES, DUBBERS, TAPE RECORDERS, DISK PLAYBACK, ETC. CAN ALL BE MIXED SIMULTANEOUSLY. SEPARATE CONNECTORS FOR BRIDGE INPUTS MAY BE LEFT HOOKED UP IN STUDIO ALONG WITH MIC LINES.

QUALITY CANNON XLR CONNECTORS

TRANSISTOR RELIABILITY

STUDIO PERFORMANCE AND CONVENIENCE

ALL PLUG-IN PREAMP MODULES FOR AMEGA MIXERS ARE INTERCHANGEABLE WITH OTHER MIC AND PLAYBACK PREAMPS IN AMEGA RECORDERS OR DUBBERS.



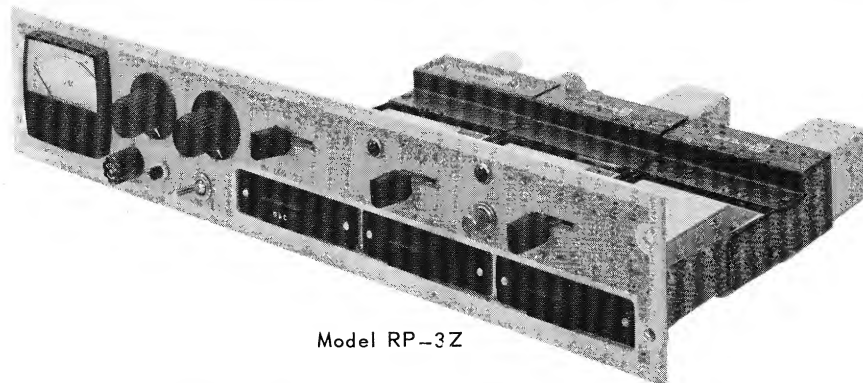
THE PLUG-IN MODULES HAVE SPECIAL "SPACE AGE" ENCLOSURES PROTECTING ALL COMPONENTS. TRANSISTORS ARE VENTILATED AND THERMAL PROTECTED BY A SPECIAL CIRCUIT FOR UTMOST RELIABILITY AND LOW MAINTENANCE.

# AMEGA

## "ZERO IN" "ZERO OUT"

### STUDIO RECORD-REPRODUCE AMPLIFIER

600 ohms Transformer Input 600 ohms Transformer Output

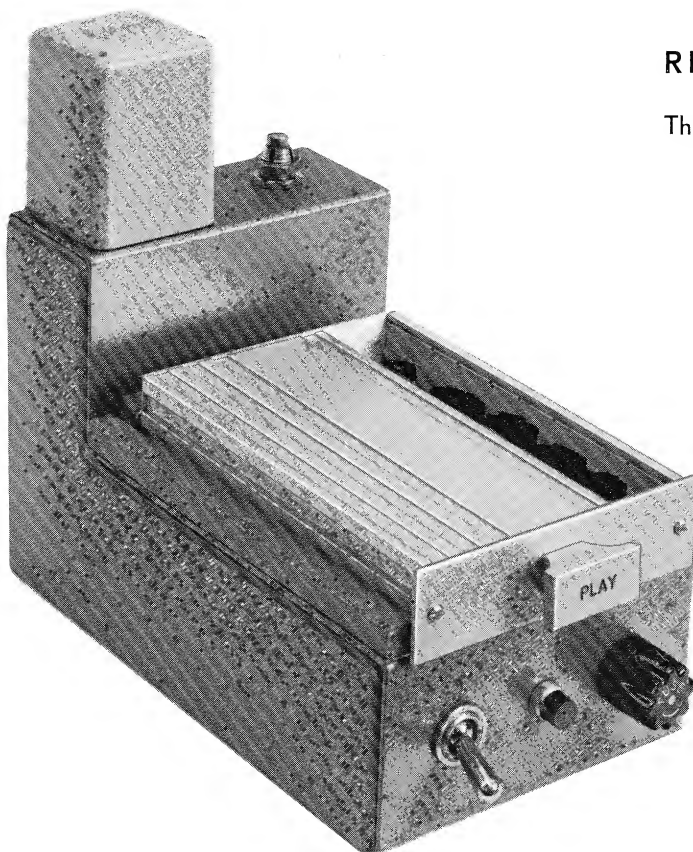


Model RP-3Z

Completely housed within a 3½" x 19" panel is a complete zero in zero out studio record reproduce system. Switching is provided for record play, film direct monitoring and bias read. Both record and play gain controls are located on the front panel.

This unit is ideal as a retro fit replacement for an existing vacuum tube type amplifier. The record play modules are interchangeable.

Erase heads can also be installed in existing equipment at a nominal cost. The same bias oscillator can be utilized for both recording bias and erase current requirements.



### REPRODUCE AMPLIFIER

The unit pictured is completely self-contained, including power supply and interchangeable module for reproducing. Both low and high impedance heads can be equalized to meet SMPTE and other standards.

Output gain control is screw driven adjustment type and can be set for high level output after equalizer has been installed.

Signal to noise ratio of unit is -65 db.

Model PB-1







Amega consoles have been produced for many applications. The unit pictured has the basic requirements for dubbing, narration and re-recording. Three microphone input channels and three high level inputs are mixed with master gain control. The patch pay permits equalizer and secondary inputs to be bridged for mixing reproduce signals from record players, optical film, tape recorders and magnetic film reproducers. Microphone inputs for narration, foreign dialogue and special effects are also mixed through the master gain control.

Indicator lights show that dubbers and  
Push button controls are included for

# AMEGA

# MOTION

# PICT





Rotary or slide type attenuators can be ordered depending on the operator's preference. Key type switching for equalizer "in" equalizer "out" can be specified. The master gain control can be a slide type attenuator.

The standard Amega console is constructed of walnut and finished to beautify the most elaborate studio. A foam rubber padded arm rest is standard for all models. The control panel is black anodized aluminum finished to be durable and to emphasize all indicators and calibrations.

Slide type equalizers can be included either on the right hand or left hand side of the control panel. The patch bay can be wired for equalization ahead of each input, interstage as well as complete program equalization for the console output. Write the Amega "Workshop" for additional details.

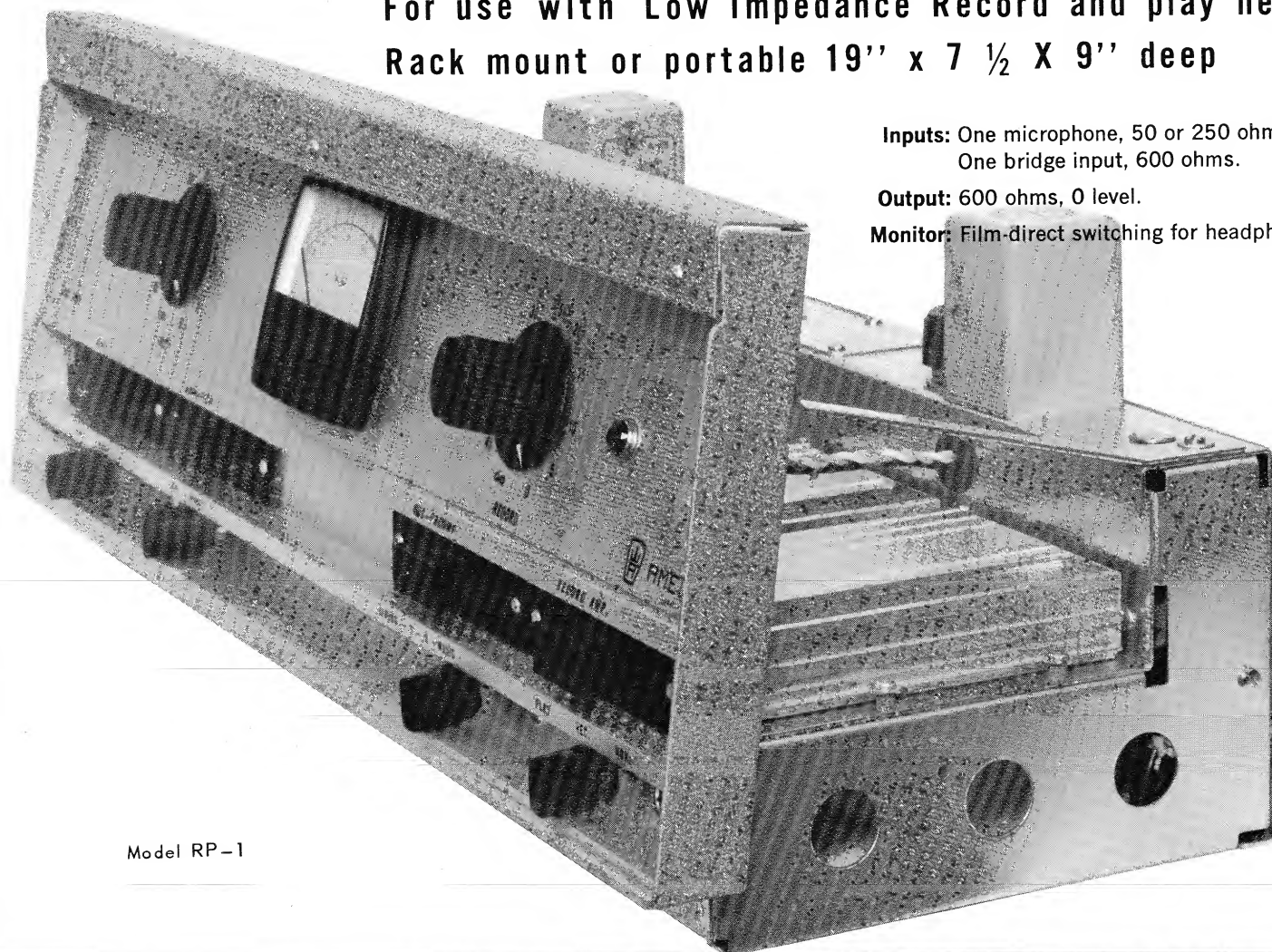
the recorder are threaded and in standby.  
erlock and run functions.

# ATURE STUDIO CONSOLES

# AMEGA

## RECORD REPRODUCE AMPLIFIER

For use with Low Impedance Record and play heads  
Rack mount or portable 19" x 7 1/2" X 9" deep



Model RP-1

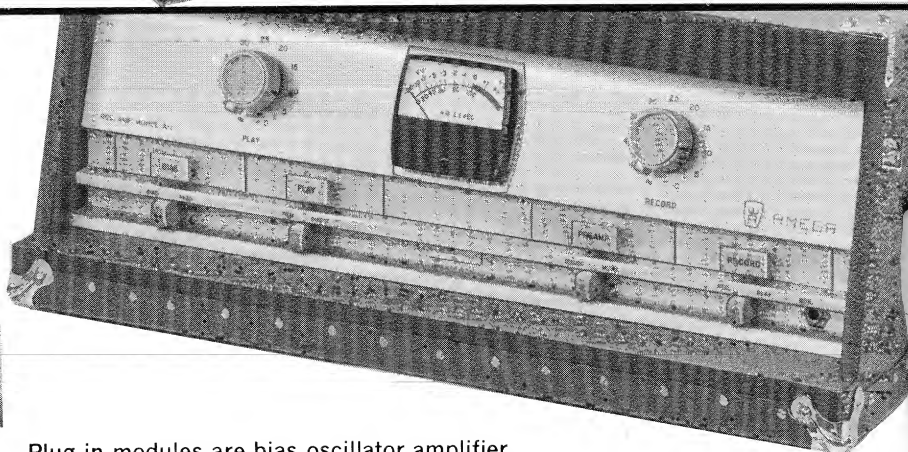
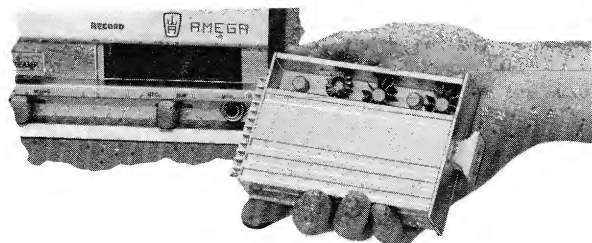
**Inputs:** One microphone, 50 or 250 ohms.  
One bridge input, 600 ohms.

**Output:** 600 ohms, 0 level.

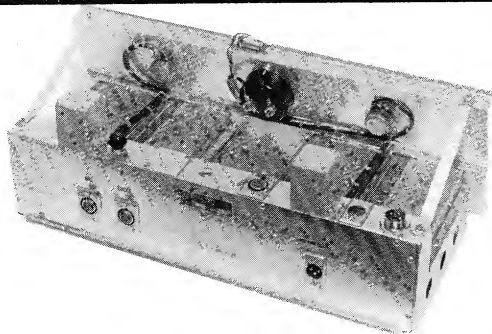
**Monitor:** Film-direct switching for headphones.

### AMPLIFIER

Microphone input channel has dialogue-music equalization. Switch is located on the front panel.



Plug in modules are bias oscillator amplifier, record amplifier, microphone preamplifier and playback preamplifier with gain control.



### Rear View Model ..... Amplifier

Both microphone and bridge input receptacles are provided. Unit furnished complete with power supply and Cannon input output receptacles for record and play heads.

# AMEGA TWO CHANNEL RECORD AMPLIFIER MIXER

... has two microphone input channels with master gain control. Solid state transistorized amplifiers, bridging inputs for high level signals, output 600 ohms, 0 level. Head phones for monitoring direct or film signals. Transistorized power amplifier for speaker monitor and output.

Amplifier panel has upper recess illumination with lamps for meter and other controls.

V-U meter reads Bias for Record Oscillator.

Amplifier bias oscillator, Record amplifier, Play-back pre-amplifier and Microphone pre-amplifiers plug in the front panel.

Dialogue equalization for each input channel.

All plug in modules for recorder, mixers and re-recorders are interchangeable.

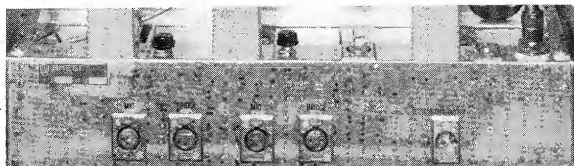
Plug-in amplifiers have special aluminum enclosure; transistors are exposed for ventilation. Circuit board is in groove and can be removed if necessary.

Model RP-2

**Inputs:** Two microphones, 50 or 250 ohms.  
Two bridge inputs, 600 ohms.

**Output:** 600 ohms, 0 level. Speaker output, 2 watts.

**Monitor:** Film-direct switching for headphones.



Rear View

Model ..... Amplifier

Record amplifier mixer is complete with input output transformers and separate receptacles for microphone and bridge inputs. System is complete for average studio master recording requirements.







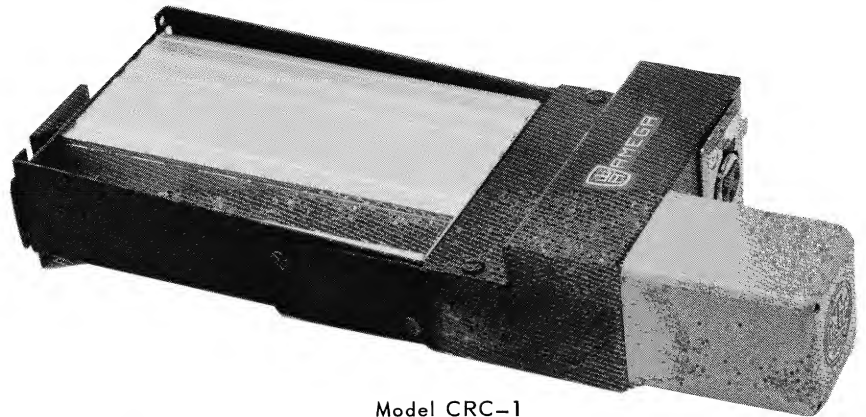
# AMEGA

## MODULAR STUDIO

**MODERNIZE PRESENT EQUIPMENT AND STANDARDIZE THE  
BE EQUALIZED FOR ANY STANDARD 16 OR 35MM. BIAS  
ONE POWER SUPPLY FOR RECORD, ERASE AND PLAY.**

### RECORD AMPLIFIER

Module with cradle is complete with input transformer, and input receptacle. For a replacement recording amplifier, unit requires Amega bias oscillator.



Model CRC-1

### BIAS OSC

The Amega bias oscillator is basic for all magnetic recording applications. Bias current can be adjusted for both low and high impedance heads.

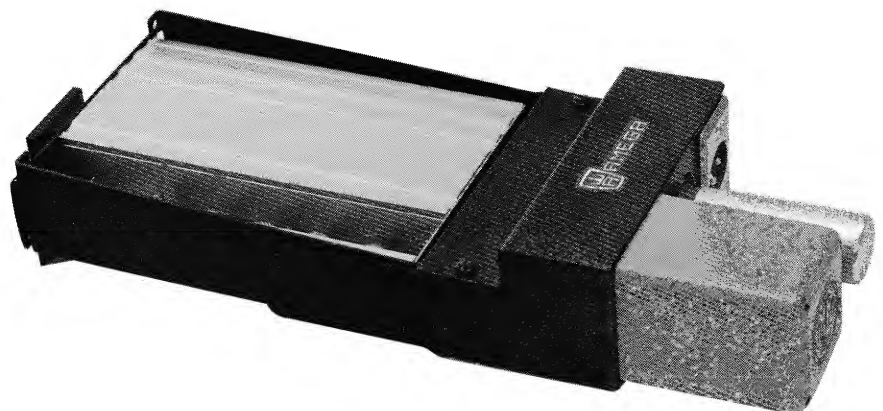
Bias erase module is also available. Special erase head design and adequate erase current permit erasure equal to bulk methods.



Model CBO-1

### REPRODUCE AMPLIFIER

Playback pre amplifier is complete with "600 ohm output" and "head input" receptacles. Output through transformer is 600 ohms zero level. Equalizer can be adjusted for SMPTE or other standards. This unit is ideal for achieving constant results where one or more reproducers are employed.



Model CPL-1

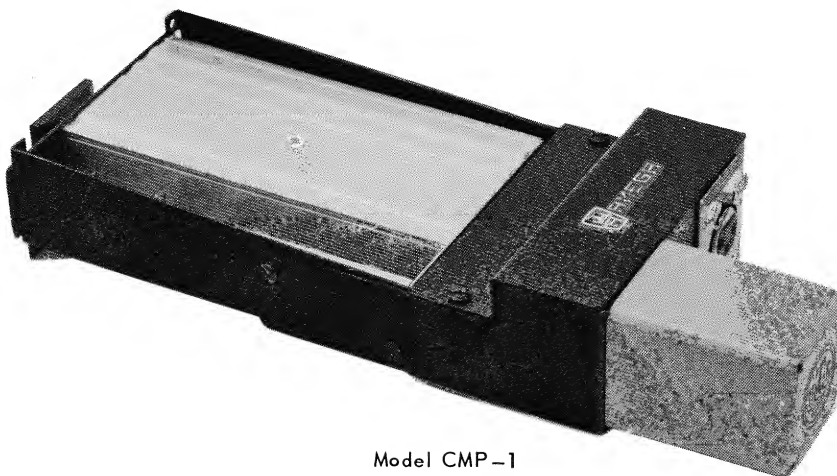


# AMPLIFIERS FOR MIXERS - RECORDERS DUBBERS CONSOLES LINE AMPLIFIERS

STUDIO AUDIO SYSTEM. RECORD AND PLAY AMPLIFIERS CAN  
OSC CAN BE USED FOR RECORD AND ERASE.

## MICROPHONE PREAMP

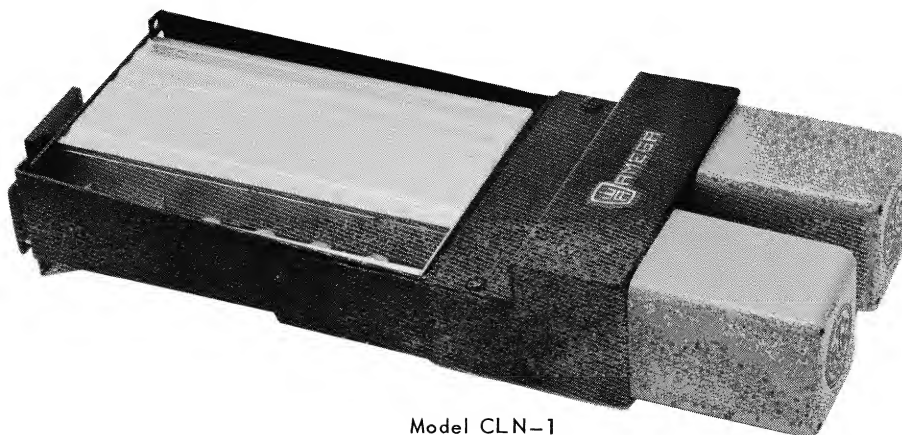
Noise free recording using low level output professional microphone can now be achieved with transistor preamplifiers. Signal to noise ratio -65 db. Gain with input transformer 100 db. 600 ohms attenuators may be connected for interstage gain control.



Model CMP-1

## LINE AMPLIFIER

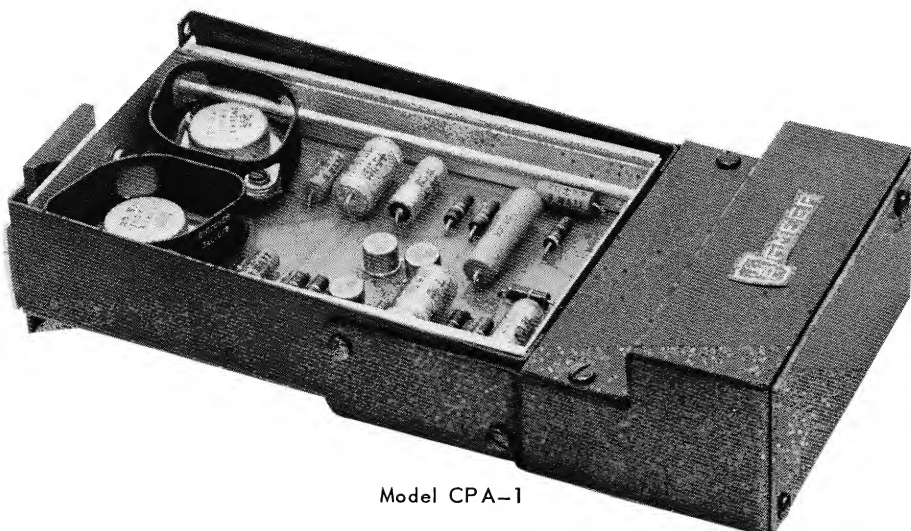
Line amplifier 600 ohms input and 600 ohms output. 45 or 90 db gain. Can be used as booster amplifier for equalizers and mixing networks.



Model CLN-1

## POWER AMPLIFIER

Monitor power amplifier has 2 watts output and flat response. Speaker connection 4 to 16 ohms. Unit is ideal for monitoring booth or small screening rooms.



Model CPA-1

# PLEASE SEND ADDITIONAL INFORMATION

## ON AMEGA MODULAR AMPLIFIER SYSTEMS

Please send additional data:

Record Amplifier\_\_\_\_\_

Microphone Preamp\_\_\_\_\_

Reproduce Amplifier\_\_\_\_\_

Line Amplifier\_\_\_\_\_

Power Amplifier\_\_\_\_\_

Please send data on retro fit audio for the following type equipment.

Note: Please list existing studio equipment by model number. Complete instructions for replacement with Amega modular amplifiers will be sent.

Reproducers\_\_\_\_\_

Mixers\_\_\_\_\_

Recorders\_\_\_\_\_

Consoles\_\_\_\_\_

Accessories\_\_\_\_\_

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# AMEGA

*The most progressive name in Motion Picture Sound*

Manufacturers of Motion Picture Sound Devices

AN AFFILIATE OF OMEGA ENGINEERING COMPANY

11817 WICKS STREET / SUN VALLEY, CALIFORNIA

### WARRANTY:

All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone pre-amplifier will be replaced as complete boards by your dealer or the factory.

Defective mechanical and electronics components will be replaced on exchange basis. Replacement parts will be shipped air mail without charge to the customer to any part of the world. Record and play heads are guaranteed except for normal wear. No claims under the guarantee will be entertained if parts have been misused or abused.



AMEGA SOUND SYSTEMS

**ACCESSORIES**

# *A Message from the*

## "AMEGA WORKSHOP"

The Amega Workshop was organized to discuss every day problems encountered within the field of motion picture sound. Open panel sessions are held weekly, with personnel from the Amega Engineering Department and guest panelists with field and studio experience participating.

The real challenge for the average producer is to produce a film within the minimum budget required to meet the expected schedule. Proper use and intelligent upgrading of existing equipment are important factors in meeting this challenge.

The Amega Workshop is dedicated in its endeavor to meet the needs involved in producing an acceptable sound track. We invite you to write in your questions or, if you are in Los Angeles, you are welcome to join us in one of our sessions.

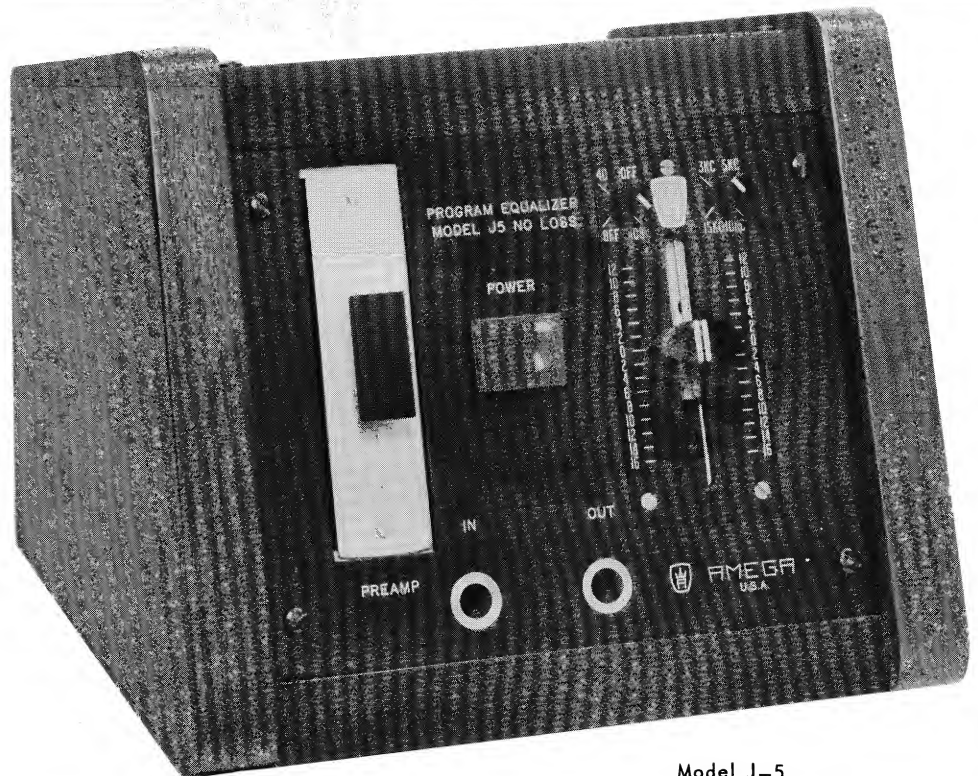


# AMEGA MIXING AND DUBBING

The equipment described in this catalog will assist in the mixing and dubbing processes. Equalization is an important factor since many acoustical variations are encountered during the recording of the dialogue. Amega provides mixers, consoles, equalizers and dubbers which are all compatible to the final composite sound track.

## AMEGA NO LOSS EQUALIZER

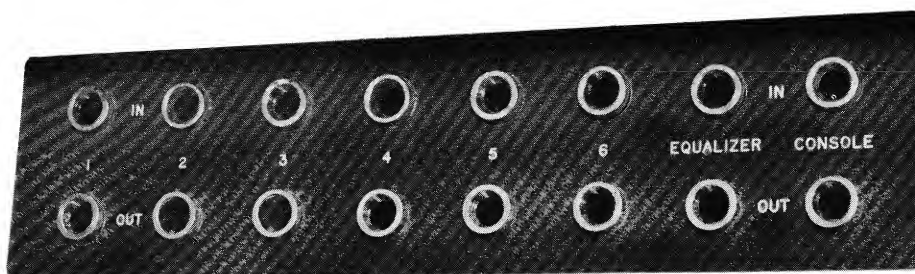
The program equalizer lends itself to balancing the quality of dialogue, music and effects. Both high and low frequencies can be boosted or attenuated. The "no loss" feature means there is no "insertion loss" as found in the usual equalizer. Boost and attenuation can be accomplished without loss in gain during the mixing process.



Model J-5

## AMEGA PATCH BAY

The use of the patch bay can simplify interconnecting various elements in the audio chain. It provides versatility, especially when equalizers and filters are used. Auxiliary equipment can be interconnected with minimum effort.



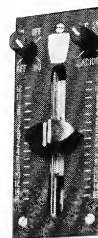
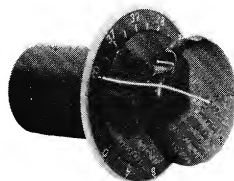
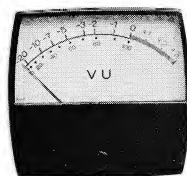
Amega provides several patch bay combinations or will custom fabricate to your particular needs.

Write the Amega Workshop listing the equipment involved and the input output impedances if known. Quotations will be made immediately.

# AMEGA

## CONSOLE COMPONENTS

The components used in Amega mixers and consoles are now made available to the producer and sound studio. The various units have been tested in actual operation and are universally compatible with most auxiliary equipment. Attenuators are available for both low level and high level mixing. The Amega VU meter was designed with damping for motion picture recording. The attenuators, transformers and equalizers were designed to meet studio motion picture sound standards. Write for price quotations and directions for installation.



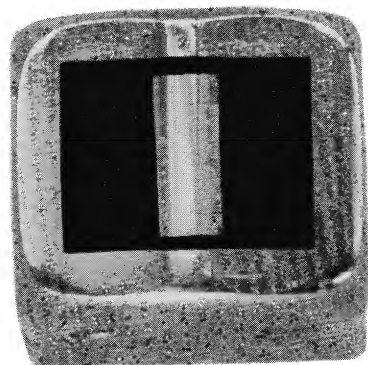
---

# AMEGA

## LOW IMPEDANCE HEADS

The use of low impedance heads is now universal in modern equipment.

Many producers and studios have "retro fit" their existing equipment with Amega amplifiers and low impedance heads. These units are available in standard 200 mil tracking and multi-channel configurations. Adapter plates and brackets are available for most contemporary equipment. Your recorders and dubbers can be equipped with removable plug-in low impedance head assemblies which are compatible with all Amega model amplifiers.



Amega head assemblies and Amega interchangeable amplifiers can be adapted to all type transports, both 16 and 35 MM. Plug-in equalizers are also available.



# AMEGA

## DISTRIBUTOR & SYNC-SELSYN INTERLOCK SYSTEM

Sync-Selsyn Interlock is becoming more popular because there is no distributor required and no complex wiring. The Amega Model C-6 control panel can be used with three dummies, projector, recorder and remote footage counter.

Each element in the system has separate controls so that any two or more units can be interlocked. Any unit can be removed from the line during interlock. For example, if one of the dummies should run out the operator can switch motors from the line without disturbing the other units in operation.

The Amega "vari-control" is used with the sync-selsyn system. The frequency input to the sync drive motor is changed so that the sound track can be advanced or retarded one frame per second. Music, dialogue and sound effects can be sync'ed to each other during operation.

The only significant difference between the sync-selsyn and the distributor system is slow start. The D-S-1 distributor in combination with the D-6 distributor control panel enables the operator to bring all units "up to speed" slowly and have all the units "coast down" simultaneously.

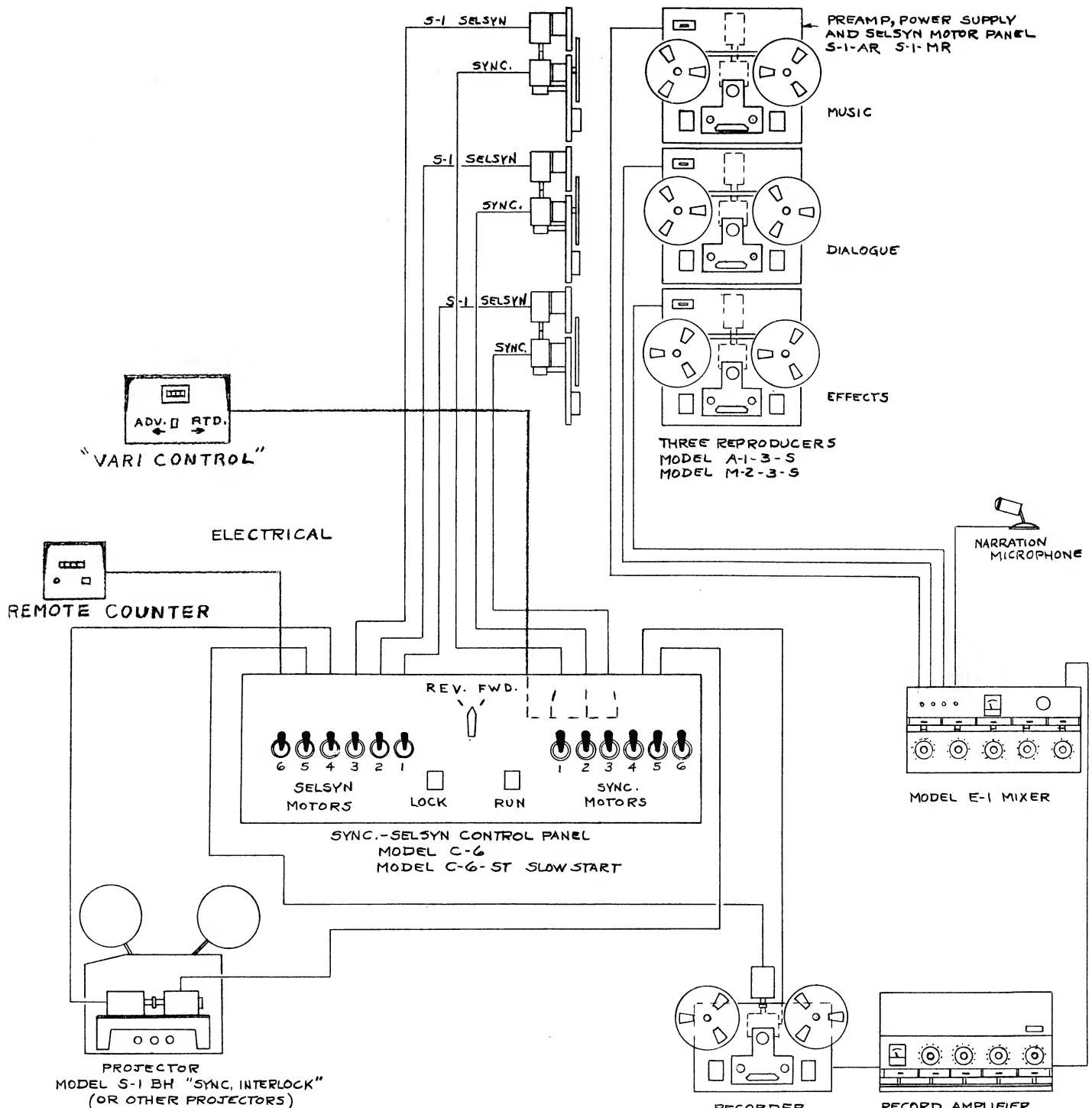
With the distributor system the sync motors are not used. The slow start is necessary because the interlock motors will not start instantly since they are "followers" to the distributor "driver." The sync-selsyn system requires that all units have the synchronous and selsyn motors coupled together. Since all selsyns are electrically locked they control the starting and run of each synchronous motor. All units in the system remain locked together until taken off the line. Slow start if desirable for sync-selsyn can be accomplished by use of a rotary transformer. The 6-6 ST slow start control panel is available with this feature.

The S-1 Amega interlock motor is designed for 110 volts single phase input for excitation. The secondary voltage generated by the motor is 110 volts three phase. The motor is applicable for coupling to drive speeds of 900, 1200, 1440, 1500 and 1800 R.P.M.

All Amega recorders and dummies are equipped with synchronous motors. Selsyn and interlock attachments are available for all models both for rack mount and portable units. A portable recorder can do double duty with use in the field and for re-recording in the studio. The selsyn attachment can be removed when not in use.

Projector attachments are available both sync-selsyn and interlock. Installation has been simplified since each motor is equipped with plug ready for inter-connection to the control panel. Extension cables are available in sections of 10 feet complete with plugs. No complex wiring is required.

# SYNC-SELSYN INTERLOCK SYSTEM



## "SYNC-SELSYN"

STUDIO LAYOUT FOR RECORDING,  
DUBBING AND RE-RECORDING.

EQUIPMENT SHOWN —

M-2-3-5 THREE POSITION DUBBER WITH  
THREE INTERLOCK MOTOR ATTACHMENTS.  
C-6 SYNC-SELSYN CONTROL PANEL.  
M-2 RECORDER (PORTABLE OR RACK MOUNT).  
E-1 MIXER (FOR PORTABLE OR STUDIO).  
S-1 BH INTERLOCK ATTACHMENT WITH SYNC-MOTOR  
FOR PROJECTOR. CODE S-1-BH "SYNC-INTERLOCK".  
1-(ONE) COMPLETE SET OF INTERCONNECTING CABLES  
SUPPLIED BY "AMEGA" FOR ABOVE SYSTEM.

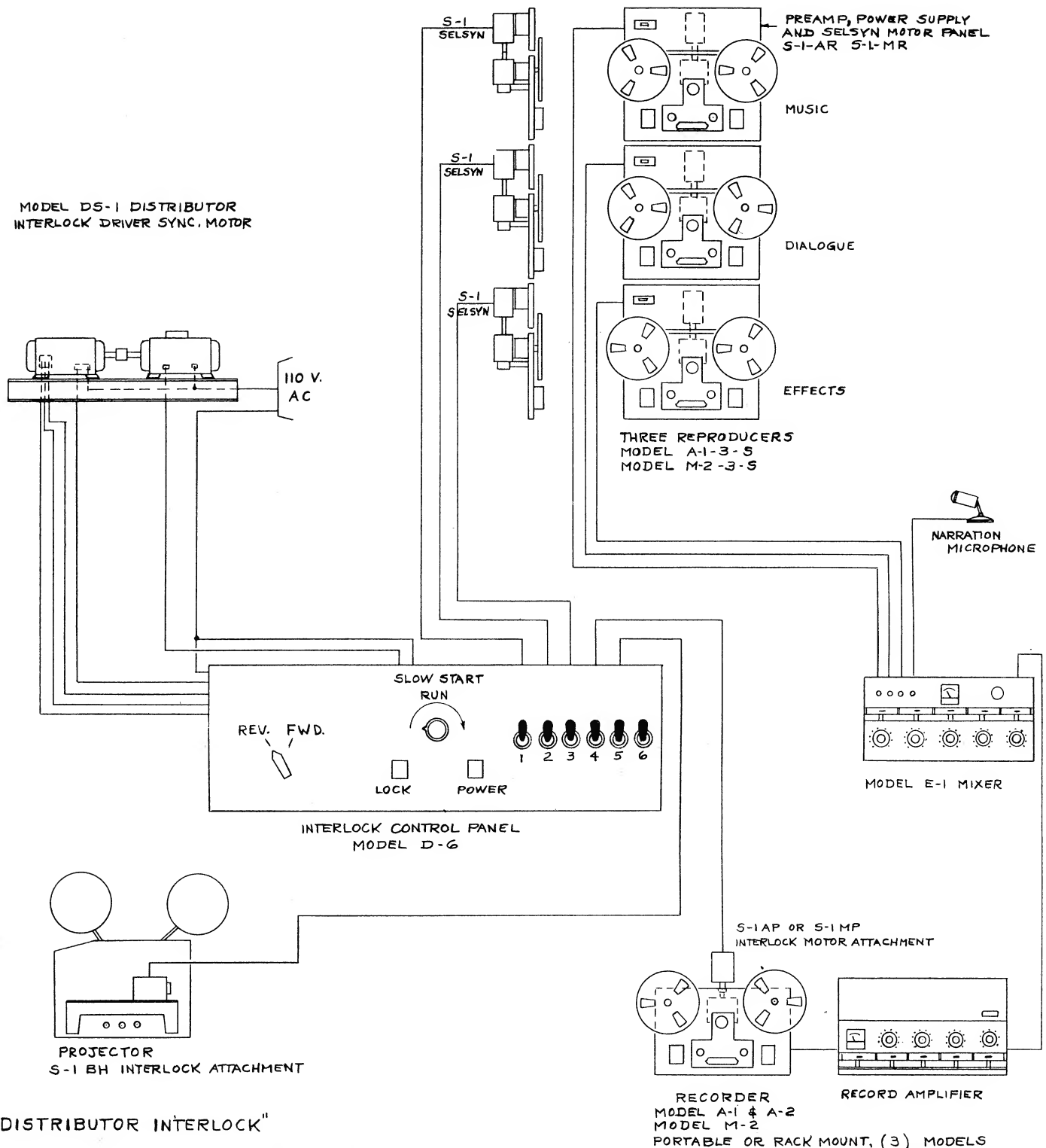
## NOTE:

- 1, REMOTE CONTROL FOR ALL UNITS, FORWARD OR REVERSE.
- 2, TWO OR MORE UNITS CAN BE LOCKED FOR "SYNC-SELSYN" OR INDIVIDUAL UNITS CAN RUN "SYNC" ONLY.
- 3, ALL "AMEGA" RECORDERS AND DUMMIES ARE EQUIPPED WITH REMOTE PLUGS FOR MOTORS.
- 4, INTERCONNECTING WIRING IS ACCOMPLISHED WITH CABLES COMPLETE WITH PLUGS. CABLES ARE SUPPLIED IN 10 FT. LENGTHS.
- 5, CONTROL PANEL HAS RECEPTACLES FOR SIX SELSYN INPUTS AND SIX SYNC-MOTOR INPUTS.





# DISTRIBUTOR INTERLOCK SYSTEM



## "DISTRIBUTOR INTERLOCK"

STUDIO LAYOUT FOR RECORDING,  
DUBBING AND RE-RECORDING

### EQUIPMENT SHOWN —

M-2-3-S THREE POSITION DUBBER WITH  
THREE INTERLOCK MOTOR ATTACHMENTS.  
D-6 DISTRIBUTOR CONTROL PANEL.  
M-2 RECORDER (PORTABLE OR RACK MOUNT).  
E-1 MIXER (FOR PORTABLE OR STUDIO).  
S-1 BH INTERLOCK ATTACHMENT FOR PROJECTOR.  
1 (ONE) COMPLETE SET OF INTERCONNECTING CABLES  
SUPPLIED BY "AMEGA" FOR ABOVE SYSTEM.

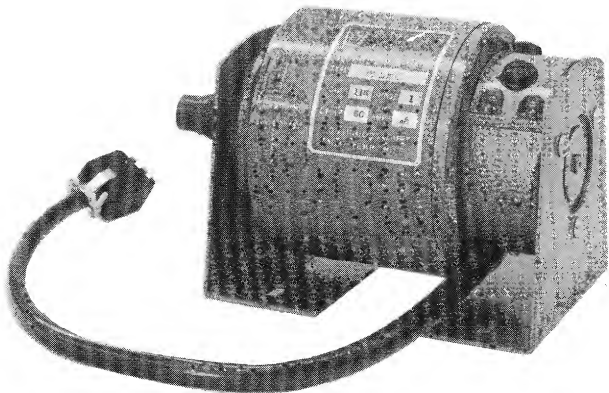
### NOTE:

1. CONTROL HAS ROTARY TRANSFORMER FOR SLOW START OF ALL UNITS
2. ANY UNIT CAN BE REMOVED FROM THE LINE WITHOUT DISTURBING THE OTHER UNITS IN OPERATION
3. UNITS OPERATE "SYNC." FOR NORMAL OPERATION
4. INTERCONNECTING WIRING ACCOMPLISHED WITH CABLES COMPLETE WITH PLUGS. CABLES ARE SUPPLIED IN 10 FT LENGTHS
5. CONTROL PANEL HAS RECEPTACLES FOR SIX INTERLOCK MOTORS

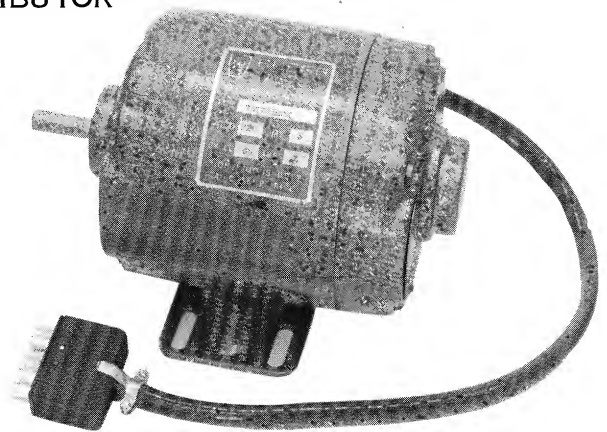


# INTERLOCK ACCESSORIES

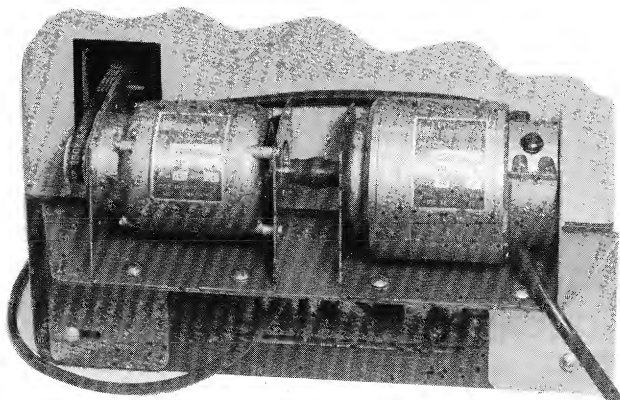
SYNC—SELSYN AND DISTRIBUTOR



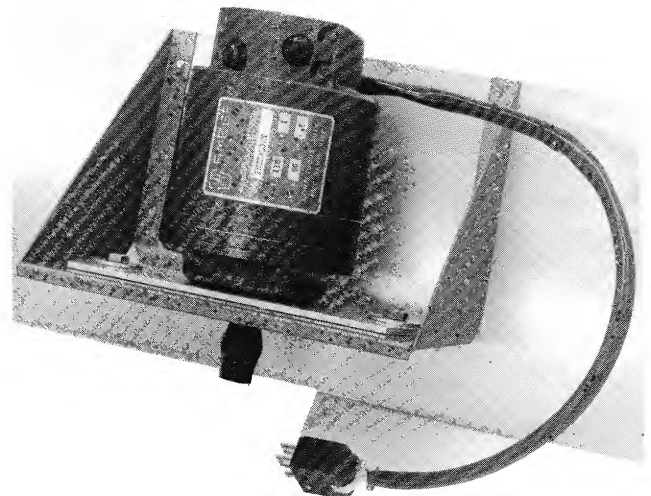
**S-1** INTERLOCK MOTOR. 110 VOLT SINGLE PHASE EXCITATION. 110 VOLT THREE PHASE SECONDARY.



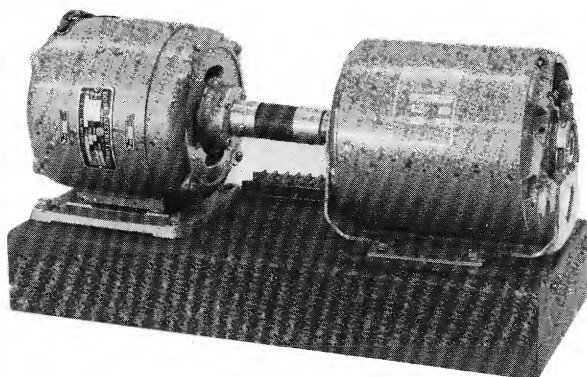
**S-3** INTERLOCK MOTOR. 220 VOLT 3 PHASE EXCITATION. 220 VOLT 3 PHASE SECONDARY.



**S-1 BH** INTERLOCK ATTACHMENT FOR BELL AND HOWELL PROJECTOR WITH SYNC MOTOR "SYNC INTERLOCK".



**S-1 AR** INTERLOCK ATTACHMENT FOR RACK MOUNT DUBBERS AND RECORDERS.  
**S-1 MR** SAME AS ABOVE FOR M-2 DUBBER AND RECORDERS.



**S-S-1** DISTRIBUTOR  
HAS 110 VOLT 50 OR 60 CYCLE INPUT. SYNCHRONOUS DRIVE MOTOR AND "INTERLOCK DRIVER". FOR USE WITH D-6 CONTROL PANEL.

**D-S-3** SAME AS ABOVE FOR 3 PHASE INPUT 50 OR 60 CYCLE.

## PORTABLE POWER SUPPLIES

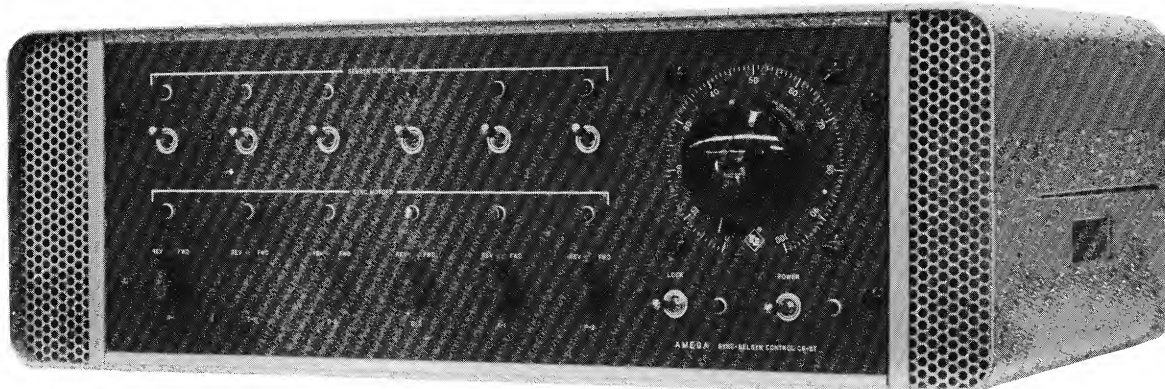
Portable power supplies are available for use with all Amega model recorders. Cameras with synchronous motors provide the interlock between recorder and camera since both units depend on a common power and frequency source.

Write for quotations. Please list camera and recorder combinations.

MADE IN U.S.A.

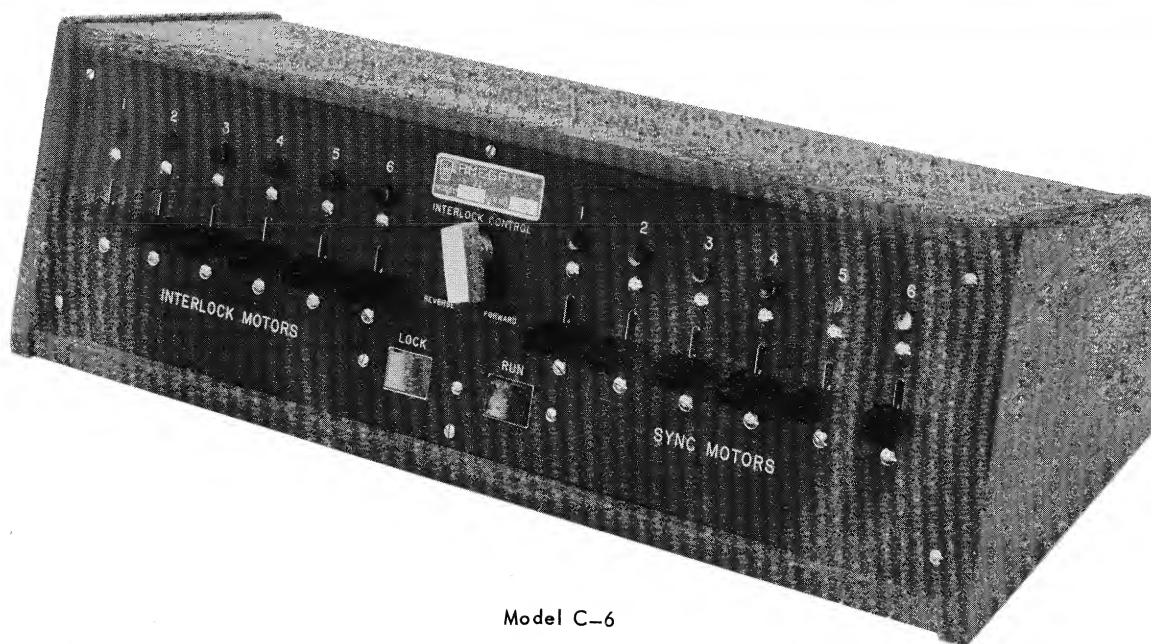
# AMEGA INTERLOCK CONTROLS

The Model C-6-ST Control Panel can be used with either sync-selsyn or distributor interlock. With sync-selsyn the motors are energized from a rotary transformer which increases the input voltage. As a distributor control, the "driver" sync motor voltage is increased gradually to accomplish the slow start.



Model C6-ST

The recorder, three dubbers, projector and interlock footage counter can be selectively controlled.



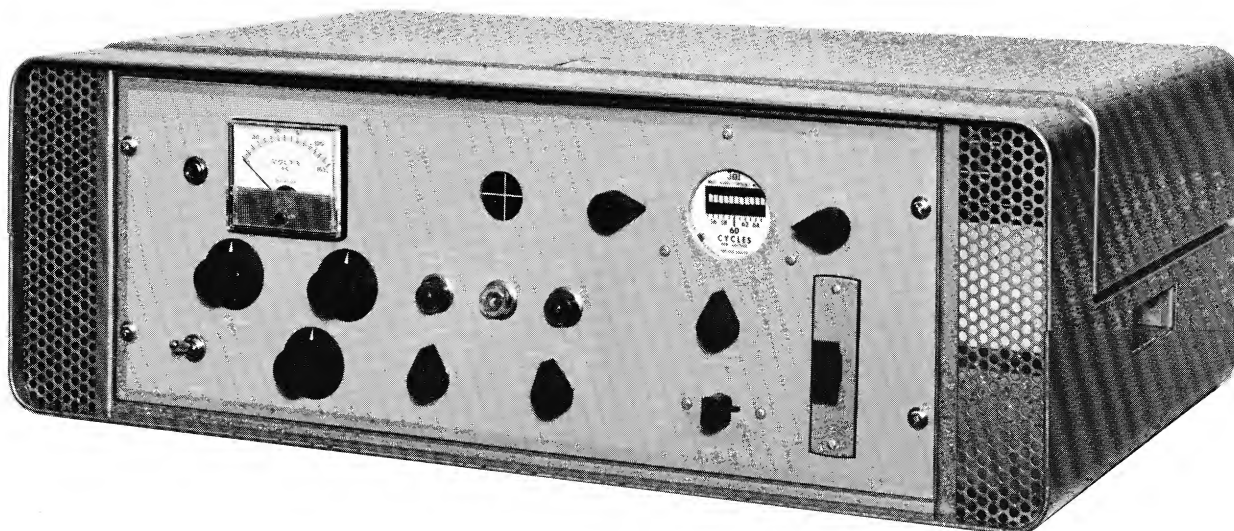
Model C-6

The Amega Sync-Selsyn Interlock system provides the facility for individual control for any two of six different units. Each Amega recorder or dubber is equipped with an output plug ready for connection to the control panel. All interlock motor attachments are supplied with plugs ready for installation.

The Model C-6 Control can be used with the Amega Vari-Control system and is compatible with all interlock attachments. Adaptation to existing equipment is usually possible. Write the Amega Workshop for quotations and instructions.

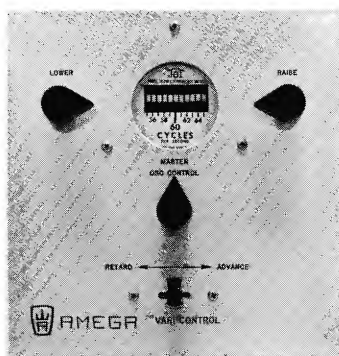
# AMEGA TRANSOLVER SYSTEM

The use of 1/4" tape as the field recording medium requires the use of a transfer amplifier or resolver. The Amega "Transolver" is compatible with all the pulse-sync system requirements. The input consists of an Amega interchangeable module to amplify the pulse-sync signal to the power amplifier. The unit compensates for drop outs, phase shift and cross talk. An Electronic circuit switches to line when sync-pulse signal is inadequate to drive amplifier. "Vari-control" permits advancing and retarding the transfer recorder synchronous motor for adjusting speed variations.



Model ATS

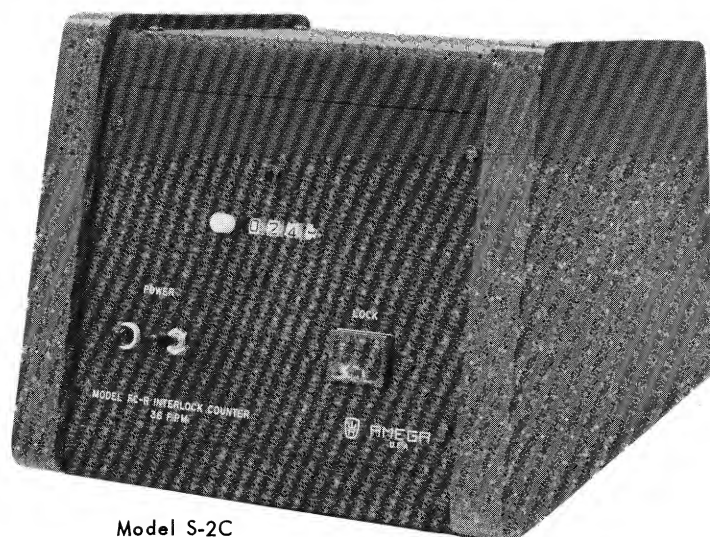
## AMEGA "VARI" CONTROL



Model AVC

The "Vari-Control System assists in the dubbing process when using the sync-selsyn system. The individual dubber can be controlled to advance or retard music, dialogue and effects. This is done while the equipment is in operation, and the adjustment can be made from scene to scene.

## AMEGA INTERLOCK FOOTAGE COUNTER



Model S-2C

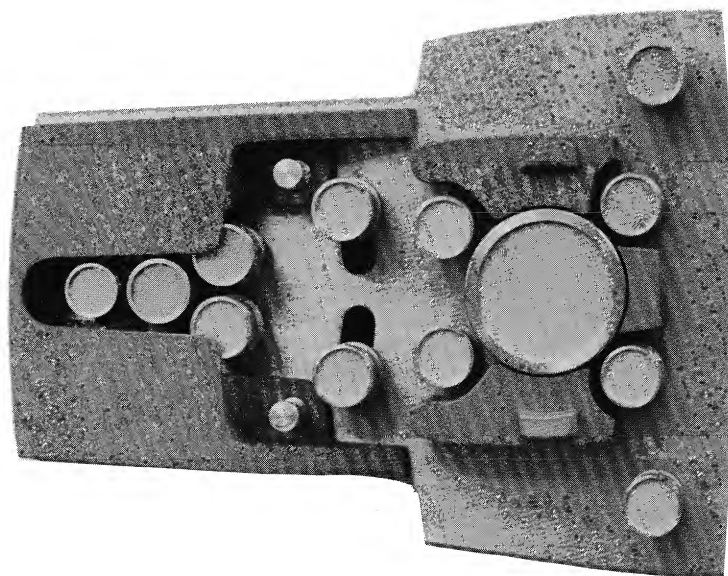
The Interlock Footage Counter lends itself to the narration and sound effects syncing from scene to scene. The unit is noiseless and can be used adjacent to the narration microphone or installed at the mixer or console. Two miniature selsyn motors, four digit push button reset footage counter and illuminated push-button lock switch comprise the console assembly.





# AMEGA

## FILM TRANSPORTS

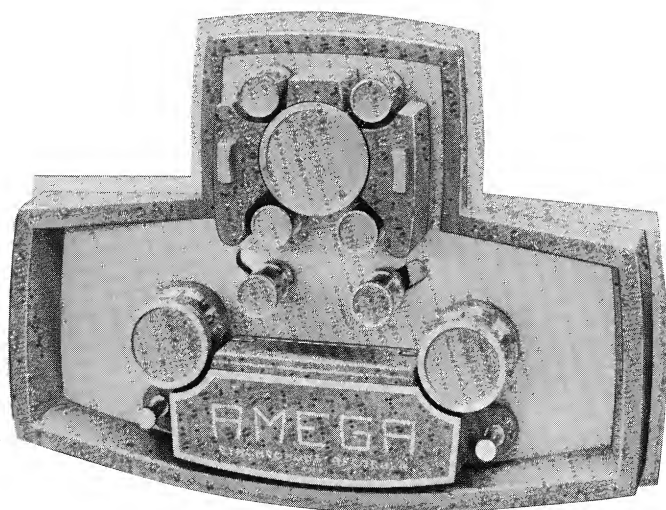


Model AIM-6

### M-6 TRANSPORT

16-17-35 MM OR COMBINATION

Amega Instrumentation Type Drive available for 16/17½/35 MM or combination 16-17½ MM magnetic and 16 or 35 MM optical recording and reproducing.



Model ATM-2

### M-2 TRANSPORT

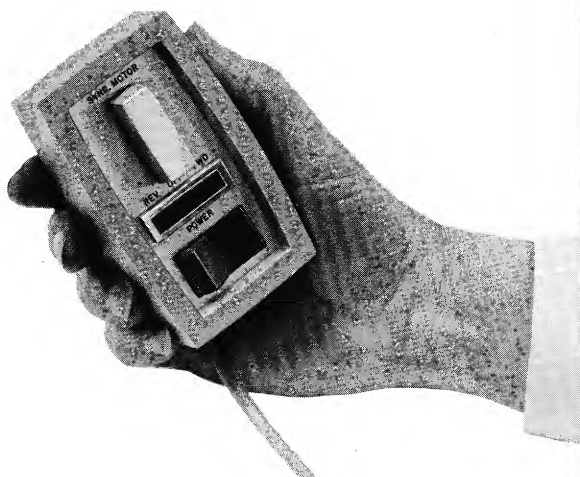
16-17-35 MM OR COMBINATION

Amega Film Transports are used in the computer field as well as for motion picture recording. Units are supplied complete with synchronous motor and with a wide variety of record play heads. Optical record and reproduce attachments available for 16 or 35 MM.

Flutter and wow for 16 MM is less than .15% total for all frequency bands and less than .1% for 35 MM. All rollers are sealed ball bearings. Transport is supplied with complete mounting instructions and wiring diagrams for forward/reverse switching.

The M-2 Heavy Duty Film Transport was designed for the service studio. The dual fly-wheel principle provides space for erase, record and reproduce heads. The ball bearing filtering system is coupled to a two-way air dampening pot which requires no lubrication. Rollers, film drums and synchronous motor drive have completely sealed ball bearings. Unit is supplied less heads ready for installation complete with diagrams for panel mount and forward/reverse switching. 16 or 35 MM and combination 16-17½-35 MM.

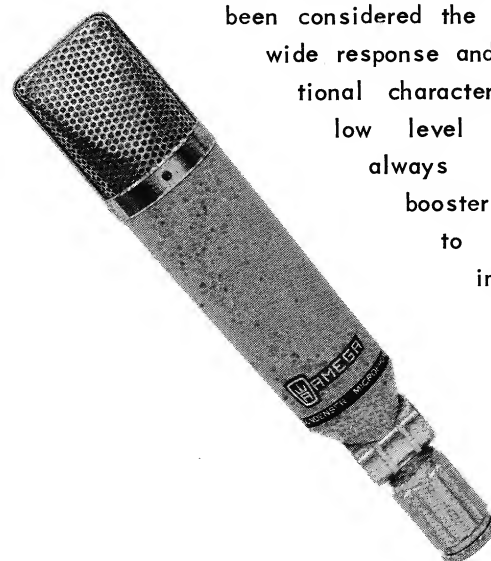
## AMEGA REMOTE CONTROL



All Amega recorders are equipped with an output plug for the remote control attachment.

Unit provides forward/reverse switching of drive motor. Standard model includes 25' cable and plugs.

Model RCAM



The condenser microphone has long been considered the ultimate for wide response and true directional characteristics. The low level output has always required a booster amplifier to meet most input requirements.

The Amega Microphone has a built-in transistor amplifier with self-contained 100 hour battery with an output level of -45 db. This high output permits difficult long shots to be picked up with full recorded signal. Directional characteristic minimizes extraneous pickup.

## AMEGA CONDENSER MICROPHONE

Amega has listed only a few of the many auxiliary items offered to the motion picture trade. Different choices of speakers, power amplifiers, microphones, etc. are usually based on the producer's present and previous experience. See price list for special "kits" to be used for "retro fit" or new equipment build up through the Amega Workshop recommendations can be made as to the compatibility of existing equipment or the selection of compatible items regardless of manufacturer. The audio complex of equipment as compared to the photographic process is no better than the weakest link in the chain.

See price schedule for listing of other audio and mechanical components.



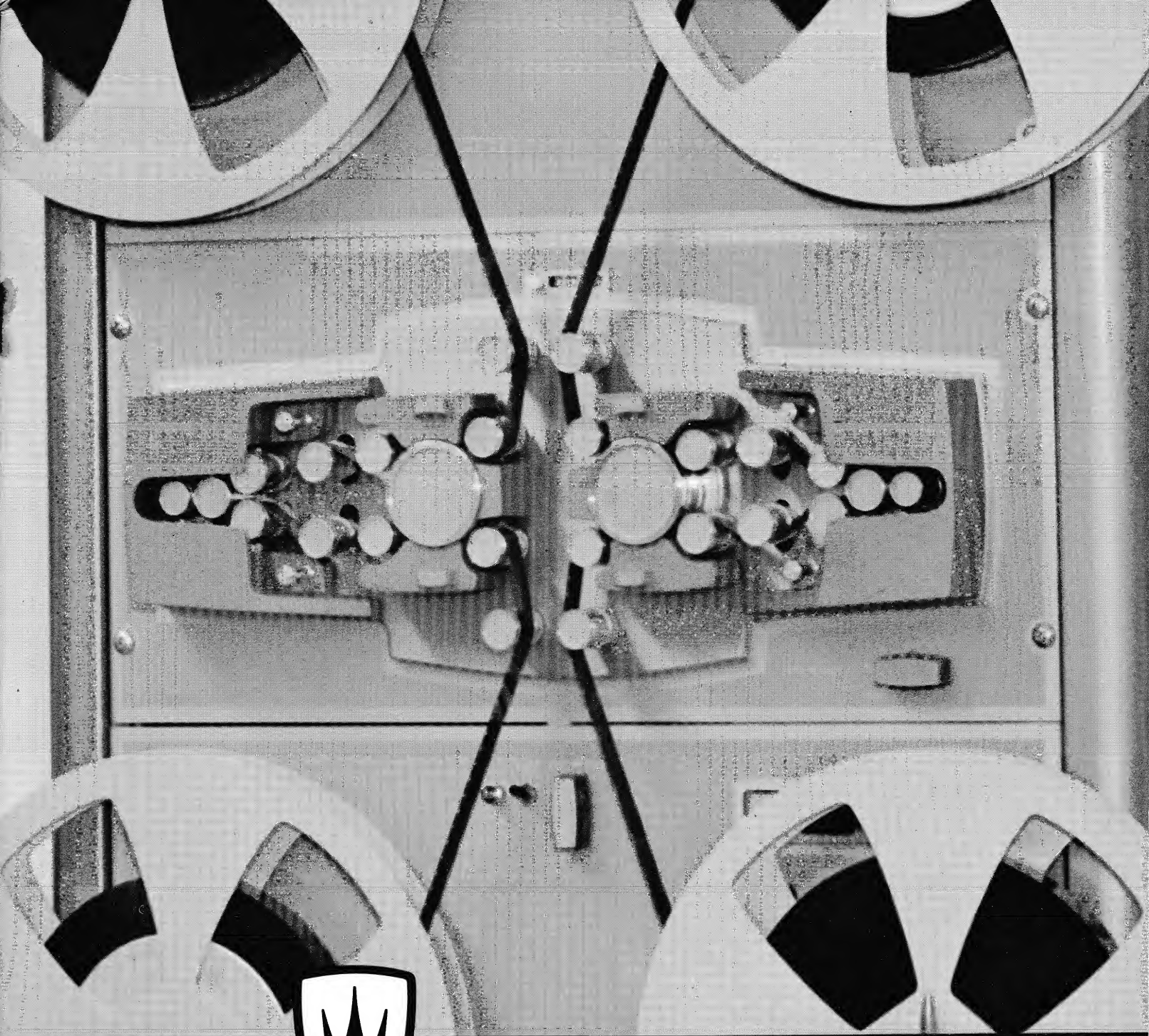
# AMEGA

*The Progressive Name in Motion Picture Sound*

AN AFFILIATE OF OMEGA ENGINEERING COMPANY

Manufacturers of Motion Picture Sound Devices

11817 WICKS STREET / SUN VALLEY, CALIFORNIA



# AMEGA

synchronous magnetic film

## sound recording system

RECORDER CATALOG



**FMEGA corporation**

**Proudly presents its**

**MODERN line of motion**

**picture sound recorders**

THE AFFILIATION WITH **OMEGA ENGINEERING COMPANY** HAS GIVEN EVERY ITEM IN THE LINE OUTSTANDING DESIGN AND ENGINEERING CONCEPT. FOR 18 YEARS **OMEGA** HAS SERVED INDUSTRY WITH EQUIPMENT AND COMPONENTS, BOTH ELECTRONIC AND MECHANICAL. IT HAS KEPT PACE WITH "SPACE AGE" TECHNOLOGY UTILIZING LATEST TECHNIQUES AND MATERIALS.


FMEGA RECORDERS AND DUBBERS HAVE BEEN "TOOLED" FOR MANUFACTURE RESULTING IN BETTER PERFORMANCE, LOWER MAINTENANCE, INTERCHANGEABLE PARTS, AND BETTER VALUE. THE MODULAR CONCEPT IS USED THROUGHOUT THE ENTIRE SOUND SYSTEM FOR FLEXIBILITY.

THE EXTRAORDINARY FMEGA INTERCHANGEABLE TRANSISTOR MODULE WAS DESIGNED FOR WORLD WIDE COMMUNICATIONS. IT IS USED IN ALL FMEGA RECORDERS, MIXERS, REPRODUCERS AND AMPLIFIERS. THESE COMPONENTS ARE AVAILABLE FOR THE STANDARDIZATION OF THE COMPLETE STUDIO SOUND SYSTEM. MANY STUDIOS HAVE REFITTED THEIR RECORDER AND REPRODUCER TRANSPORTS WITH FMEGA LOW IMPEDANCE HEADS AND MODULE AMPLIFIER COMPONENTS.

THE MODERN DEVELOPMENTS FROM FMEGA RESEARCH, PLUS PRODUCTION KNOW-HOW MAKES IT POSSIBLE TO SUPPLY THE MOST-UP-TO-DATE QUALITY EQUIPMENT AT SENSIBLE PRICES.

THE FMEGA **WARRANTY** EXTENDS TO THE DEALER AND THE CUSTOMER, WITH AIR MAIL PARTS SERVICE TO FREE COUNTRIES ALL OVER THE WORLD.

**MADE IN U. S. A.**



**QUALITY**

**RELIABILITY**

**SERVICE**



"standard"

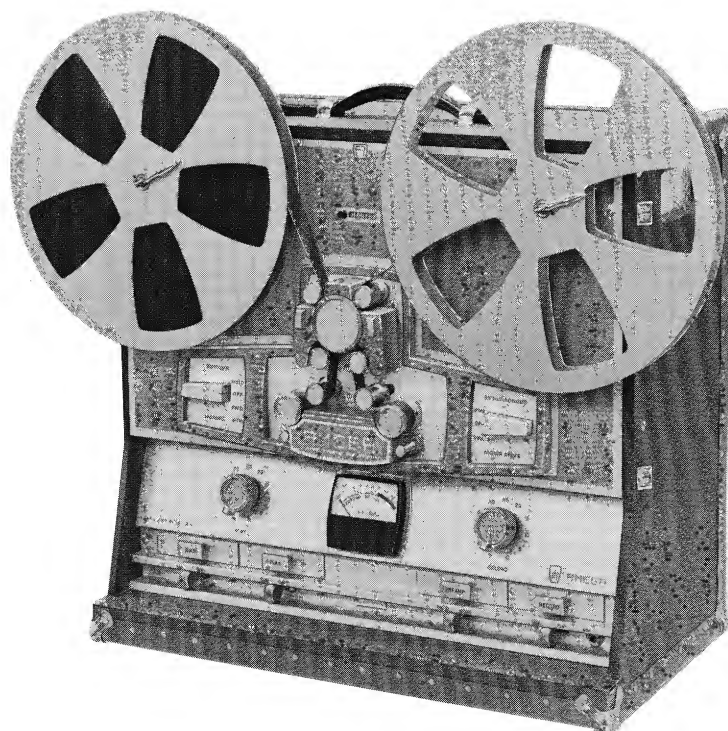
## AMEGA A-1

A complete record/play system self-contained in one portable carrying case. Unit has microphone input, film direct monitor through head phones.

Plug in modules include bias oscillator amplifier, record amplifier, microphone preamplifier and play-back preamplifier with gain control.

Two torque motors with electric differential for take up and hold back. Unit rewinds film tightly in either direction.

Mechanical unit panel, 10 $\frac{3}{4}$ " x 19".  
Amplifier panel, 5 $\frac{1}{4}$ " x 19".

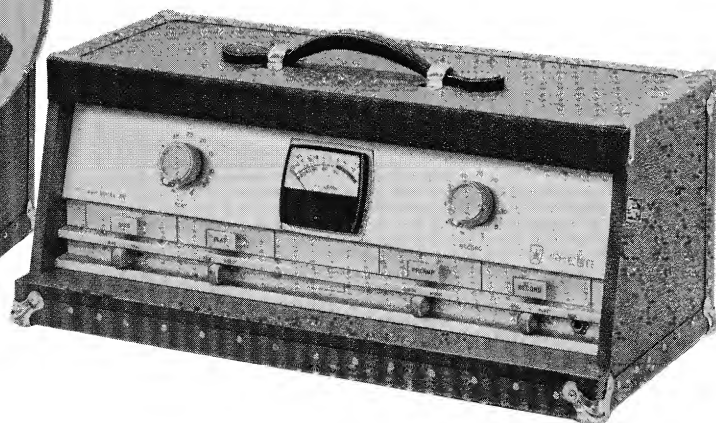
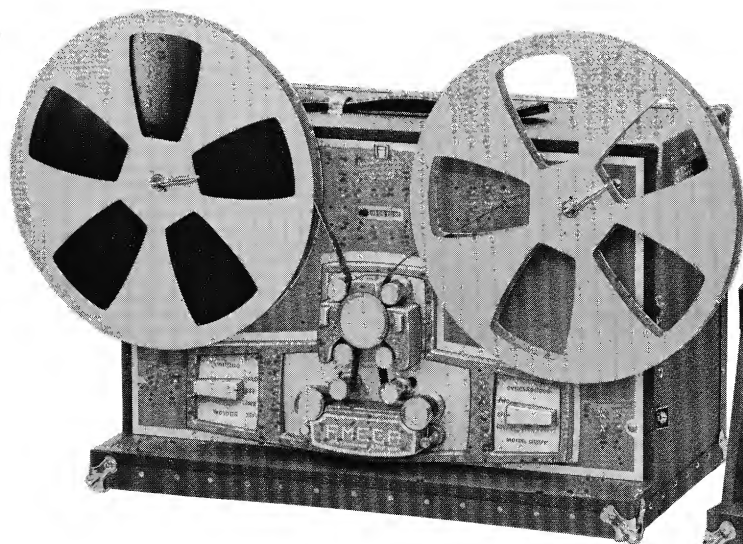


New "space age" design reflects itself throughout the entire A-1 and A-2 standard sound systems. Instrumentation type reels are 1200' capacity and are supplied with each recording system. Reels are split-apart type for ease in loading and unloading. Units are available for 50 or 60 cycles, 110 or 220 volts single-phase, and 220 volts three-phase.

## AMEGA A-2

Model A-2 is identical to Model A-1 both electrically and mechanically.

Plug in modules are bias oscillator amplifier, record amplifier, microphone preamplifier and playback preamplifier with gain control.



Model A-2 has standard mechanism with record/play amplifier in separate case. Two-case model has utility for both studio and portable use.

# AMEGA M-2

"heavy duty"

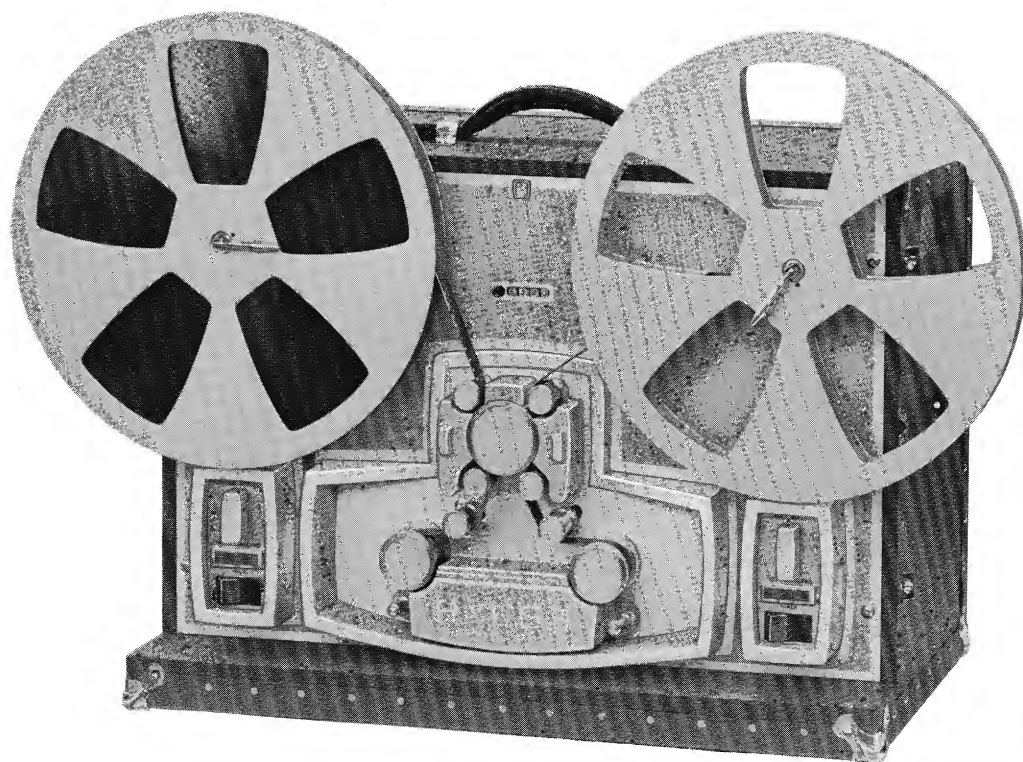
## STUDIO-PORTABLE RECORDING SYSTEM

... designed to include all the latest features and technology now employed in the space industry. A complete recording system for portable or studio use.

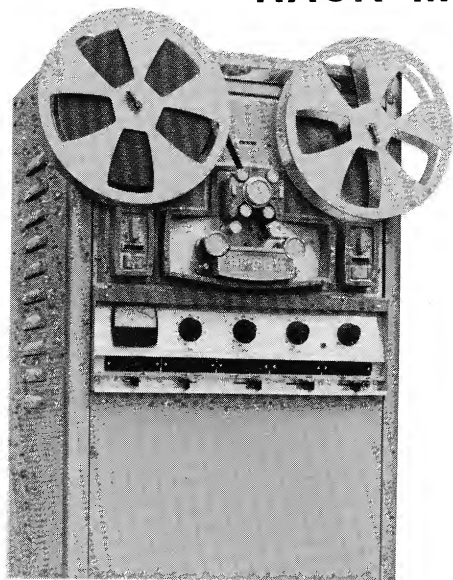
Instrumentation type split-apart reels are for ease in loading film. Two 1200' capacity reels are furnished with M-2 Recorder.

Two torque motors for take-up and rewind have electrical differential in torque for hold-back and take-up. Film is wound tight in either direction.

New ball bearing dampening system holds flutter and wow to less than .15% for 16mm and 0.1% for 35mm.



## RACK MOUNT "heavy duty" STUDIO RECORDER



The M-2 studio recorder shown with two channel record reproduce amplifier unit can be ordered with zero in zero out audio. See amplifier catalog for details. As the nomenclature suggests, the M-2 studio model is for "heavy duty" requirements. For around the clock operation such as the service studio, a remote control is available which can be located at the mixer or console.

Model M-2-R complete with rack, sync motor, two torque motors and power supply. Two channel record reproduce amplifier with speaker output.

# M-2

## RECORDING AMPLIFIER MIXER

... has two microphone input channels with master gain control. Solid state transistorized amplifiers, bridging inputs for high level signals, output 600 ohms, 0 level. Head phones for monitoring direct or film signals. Transistorized power amplifier for speaker monitor and output.

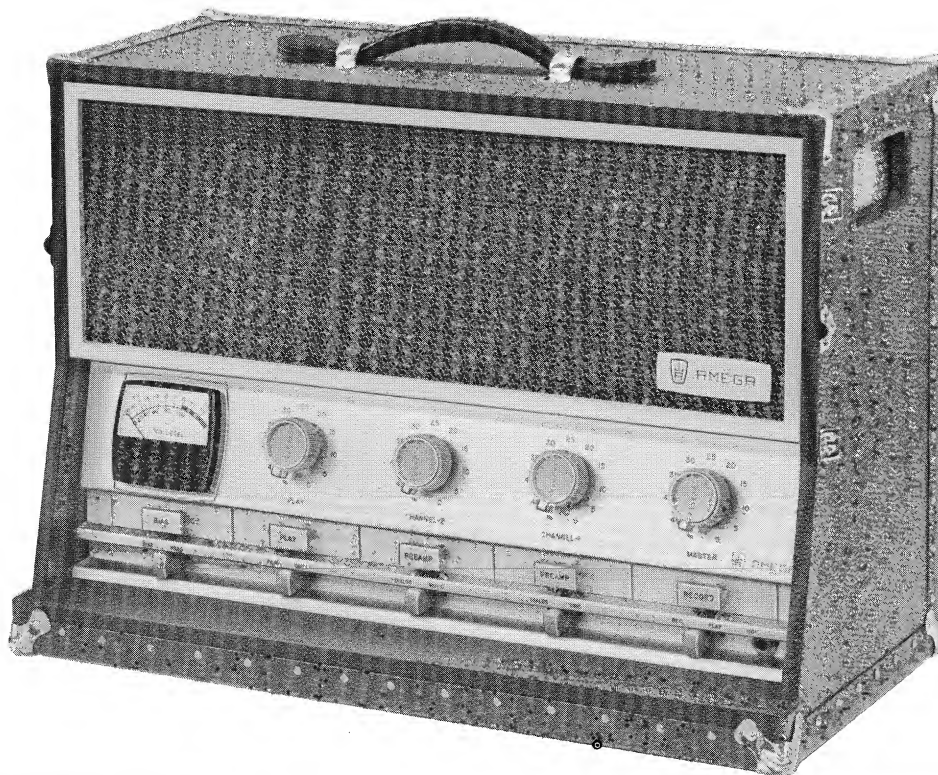
V-U meter reads Bias for Record Oscillator.

Amplifier bias oscillator,  
Record amplifier,  
Play-back pre-amplifier and  
Microphone pre-amplifiers  
plug in the front panel.

Dialogue equalization  
for each input channel.

All plug in modules  
for recorder, mixers  
and re-recorders  
are interchangeable.

Plug-in amplifiers have special  
aluminum enclosure;  
transistors are exposed  
for ventilation. Circuit board  
is in groove and can  
be removed if necessary.



## SPECIFICATIONS

**Film type:** 16mm, 17½mm and 35mm.

**Tracking:** Edge or center track for 16mm.  
Standard tracking for 17½mm and 35mm.  
Other tracking and heads available.

**Drive:** Salient pole synchronous motor.  
Standard unit 110 volts, 60-cycle, single-phase.  
Available at no extra cost: 50-cycle, single-phase.  
220 volts, single-phase, 50 or 60-cycle.  
220 volts three-phase, 50 or 60-cycle.

**Take-up/Rewind:** Two torque motors with electrical differential for tight wind in either direction.

**Frequency Response:** 45 cps to 10000 cps, ± 2 db.

**Distortion:** Less than 1% total harmonic from film. Recording 10 db below film saturation.

**Signal-to-Noise Ratio:** Better than 58 db at .1% distortion.

**Flutter-to-Wow:** 0.15% maximum RMS overall.  
.01% maximum RMS overall for 35mm.

**Inputs:** Two microphones, 50 or 250 ohms.  
Two bridge inputs, 600 ohms.

**Output:** 600 ohms, 0 level. Speaker output, 2 watts.

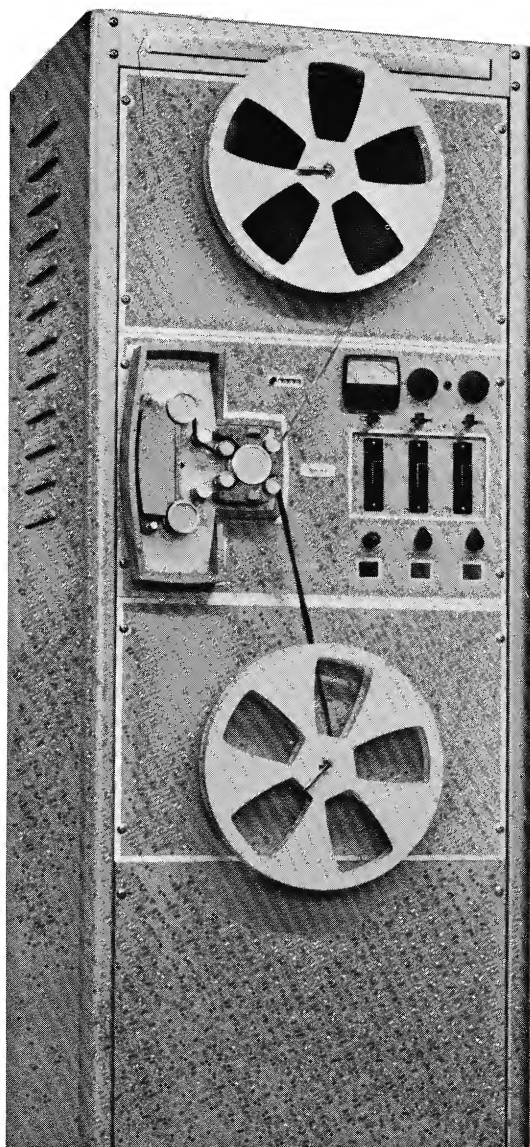
**Monitor:** Film-direct switching for headphones.





# AMEGA M-5

## "studio" recording system



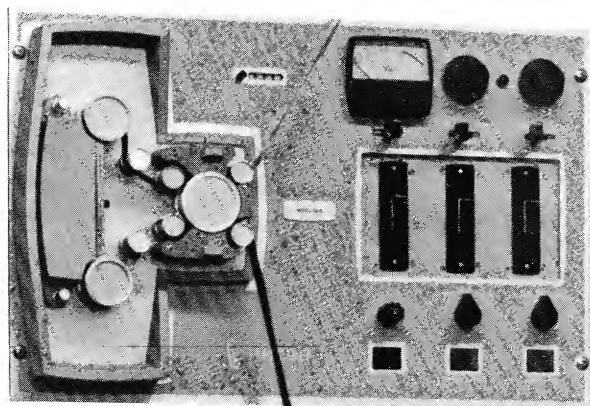
The M-5 Studio Model was designed for 35 MM master recording. In keeping with modern concepts, illumination push button controls are used for various functions. As a master recorder, the system can be remoted to the console with complete control.

The basic design utilized a heavy duty type mechanism with synchronous drive motor and provisions for sync-selsyn or distributor type interlock. The film capacity is 3,000 feet with fast forward fast reverse, differential torque for tight wind of the film in either direction.

The record and play amplifiers are standard Amega interchangeable modules. The input is 600 ohms zero level and the output is 600 ohms zero level.

The bias oscillator is so designed that it has sufficient output power for the Amega erase head feature. The erase head can be ordered with the equipment or be installed at some later date.

As pictured, the unit is complete with rack cabinet, power supply, synchronous motor and two torque motors.



Switching is provided for bias read, film direct, record play, start stop, fast forward fast reverse. The film direct function can be remoted to the console as well as the record-play, stop-start modes.



# AMEGA M-3 and M-4

PORTABLE 16mm synchronous magnetic

## FILM RECORDER



Two models are available. The M-3 Portable with nickel cadmium rechargeable batteries adequate for two hours of continuous field recording.

The M-4 is supplied for 110 volts 50 or 60 cycle operations for use where the mains power is always available. The functions are identical.

Actual photographs and additional specifications upon request.

- Standard 16mm 400 ft. reels of magnetic film for ten minutes of continuous operation. Split-apart self-contained reel assemblies permit ease of loading.
- Salient pole synchronous motor is gear coupled to the sprocket drive. Absolute sync is achieved from camera 60 cycle pulse signal. The 60 cycle pulse signal from the camera, amplified through the inverter, controls the speed of the synchronous motor. Built-in 60 cycle frequency generator permits using recorder for synchronous sound with no external source of power or frequency regulation.
- All metal case provides rugged enclosure for mechanism and amplifier.
- Standard switching and controls include record gain control, playback gain control, direct monitor control, separate film-direct, record, playback, sync forward, external-internal 60 cycle control and battery test switches for amplifier power supply and inverter power supply. Separate forward, reverse switch for rewind, internal/external AC power switch and music/dialogue switches are also provided.
- Two torque motors are used for take-up and rewind.
- The Amega M-3 is ideal for field use with any camera which has a 60 cycle output generator, or with camera driven by synchronous motors. Absolute lip-sync is achieved.
- Recording directly on 16mm magnetic film eliminates the transfer process which is necessary when using 1/4" tape. The result means savings in dollars and time.
- All SMPTE and industry standards are maintained with the use of 16mm magnetic film. Playback is immediate, and the editing process is greatly simplified.
- The nickel cadmium battery power pack is removable and rechargeable. Spare power pack enables the operator to have one set of batteries charging while the other set is in use.
- Audio circuitry and components are equal to the Amega studio recorders. Miniaturization has meant no compromise in quality or specifications. The use of plug-in modules permits the operator to maintain the equipment to a large degree.
- All controls are designed and placed for maximum convenience of operation. The M-3 will operate in either a horizontal or vertical position, under a wide variety of environmental extremes.



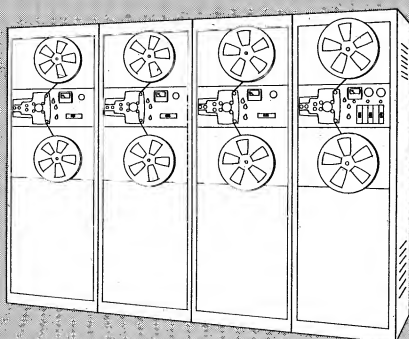
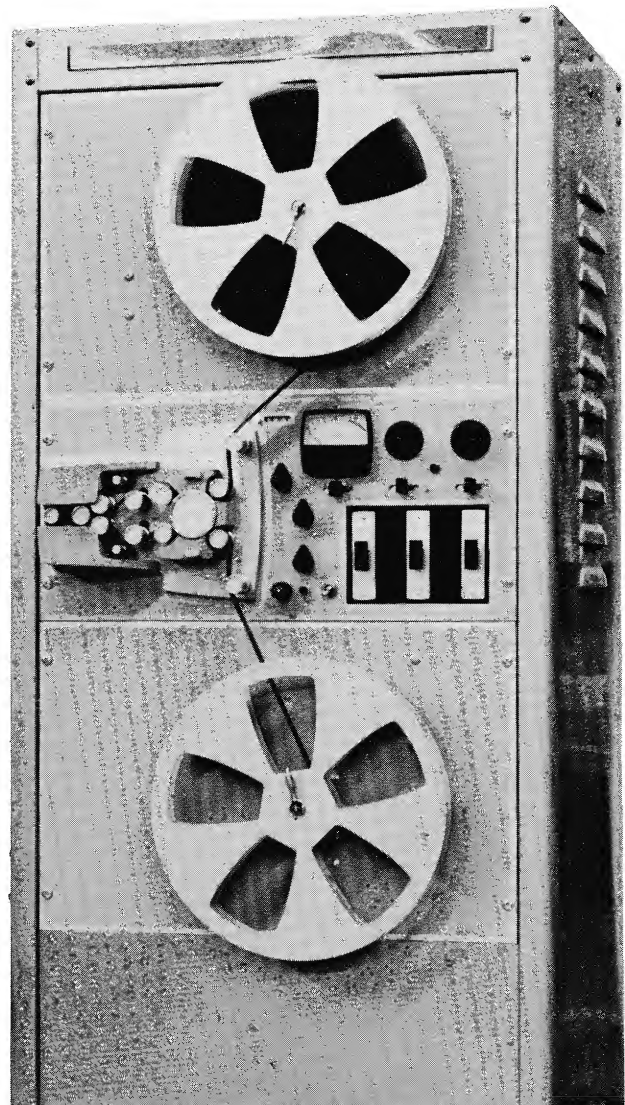
## AMEGA M-6 "mono" system

COMBINATION 16-35 mm    16-17½ mm    17½-35 mm

The Amega M-6 "Mono" system was designed for the service studio dealing in 16, 17½ and 35 MM sound requirements. This system has the new instrumentation type drive developed by Amega for the computer and automation industry. It will take film splices with minimum distortion and sets new standards for minimum wow and flutter plus maximum head contact.

The film capacity is 3,000 feet with differential torque motors. Film can be tight wound in either direction. All controls are provided on the main panel including the audio functions. The Amega interchangeable module is used for recording and play-back. FILM DIRECT and RECORD PLAY switching functions are included. The bias oscillator is plug-in type with switching for bias read on the VU meter. A four digit push button reset type footage counter with sprocket drive is included.

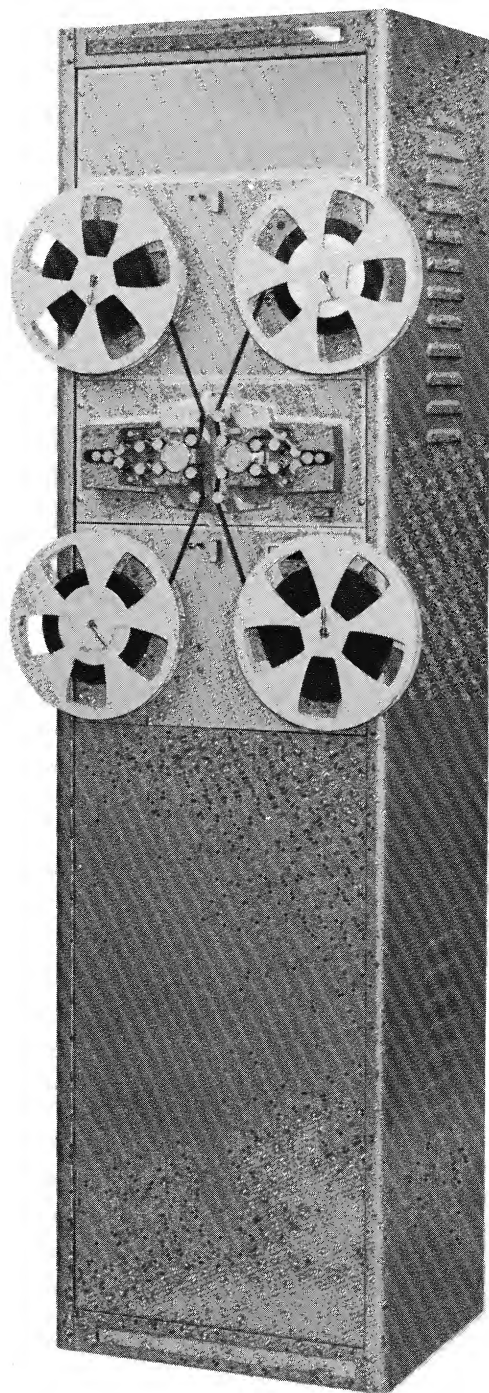
The unit as pictured is supplied with a 77" rack cabinet providing a convenient threading height. The power supply synchronous motor and two torque motors are also included.



The mounting of the take-up supply reels above and below the mechanism permits several racks to be installed directly adjacent to each other. For the studio where space is not a critical problem, the M-6 configuration permits several operators to load and unload simultaneously or to operate each of the several units individually for monitoring or rerecording sessions. All Amega recorders are provided with motor output shafts for the direct coupling of interlock motors. See accessory catalog for details. Actual photographs and additional specifications will be sent upon request.

# COMBINATION

16—35 MM



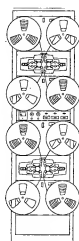
The M-7 "Duo" System provides the operator with the convenience of direct transfer from 16 MM to 35 MM, 17½ MM to 35 MM or 17½ 45 feet per minute to 35 MM or 16 MM. One recording amplifier with provision for switching equalization from 36 feet per minute or 90 feet per minute can be utilized for the combination system. For transfer, one additional Amega plug-in playback module completes the system.

All switching functions are conveniently located. Film capacity is 2,000 feet with differential torque motors for each mechanism. (See Amplifier catalog for different types to fit your requirements).

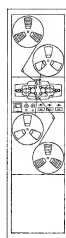
The "Duo" Two unit drive can be mechanically interlocked at no extra cost. Individual motors for 36 feet or 90 feet are provided. Secondary speeds are accomplished through switching provided on the front panel.

## AMEGA M-7

"duo" system



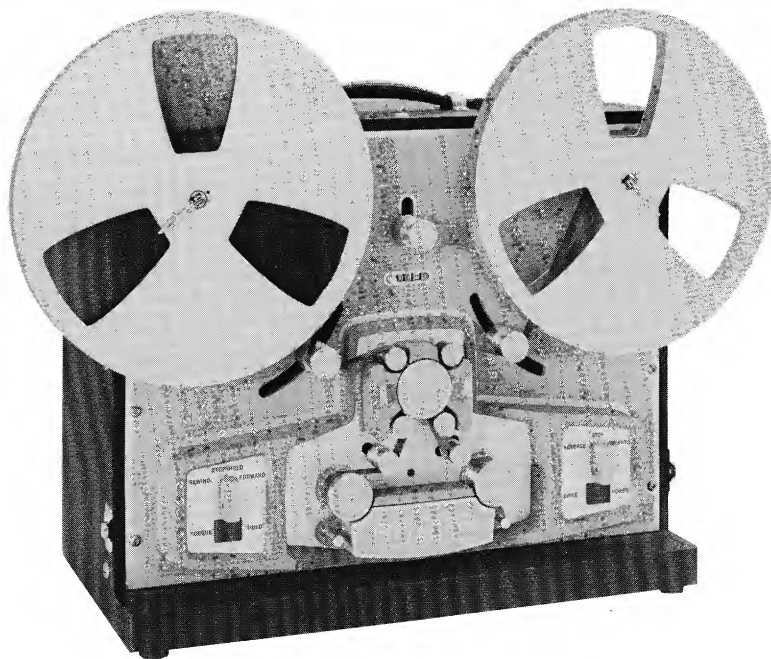
Four combination units can be mounted in a single 77" rack cabinet. The zero in zero out record reproduce amplifier is located in the center of the rack.



When racks are to be mounted directly adjacent to each other, reels can be arranged with no overlap. Film capacity 2,000 feet.

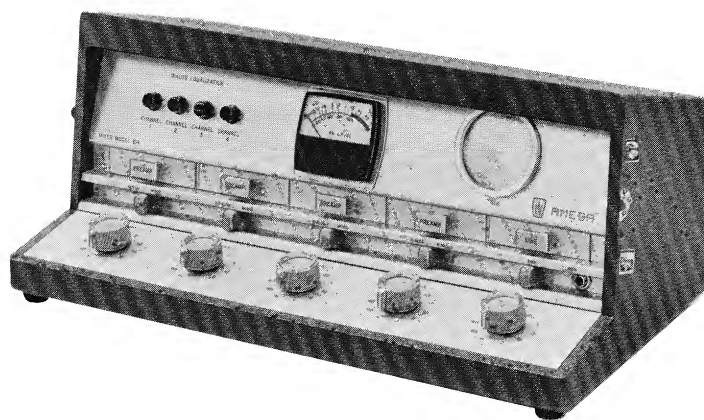


# The AMEGA M-1



Revolutionary new ideas are included in the Amega M-1 Automatic System. A new type direct drive motor has been developed by Amega which requires no gearing and has constant stop start characteristics. For combination portable studio applications, the unit is supplied with a new version of the Amega E-1 Four Channel Mixer. The record play amplifier and bias oscillator are installed with the mechanical transport. The FILM DIRECT, RECORD PLAY functions are remoted to the mixer.

An erase head is included as an integral part of the head assembly and the plug-in oscillator provides the bias and erase current. Every detail in the system has been superbly designed to provide the operator with a finger tip control of all functions and the versatility necessary for any type recording situation.



The convenience of remote mixing means that the transport can be located several hundred feet from the scene of recording. The recorder mechanism is also controlled at the mixer in the FORWARD and REVERSE modes.

SEND FOR ACTUAL PHOTOGRAPHS AND ADDITIONAL DATA

**Built in** **REMOTE**  
**ERASE - CONSOLE CONTROL**



# "AUTOMATIC"



As a studio recorder, the M-1 is the ultimate for transfer and "mastering". When using the M-1 reproducers, the good takes from a day's shooting can be automatically and quickly transferred for the film editing department. The assembly of the dialogue tracks, for example, can be accomplished without splicing to achieve the continuity and time lapse from scene to scene. This function can be achieved by remote control at the mixing console.

The unit pictured above has a two channel input amplifier for dual track recording and can be utilized for local and foreign dialogue applications. A two channel head is available for 16, 17½ and 35 MM.

This two channel concept eliminates the need for looping since the recorder will rapidly reverse itself through the sprocket for playback of dialogue for any given scene. Since an erase head is incorporated, the scene can be repeated until perfection is achieved. The result is a continuous sound track ready for the scene to scene transfer process. From the console vantage point while viewing the picture, the operator can selectively sync the dialogue for each scene and simultaneously transfer to the master recorder.

The instant STOP START, FORWARD REVERSE features lend themselves to many other studio requirements. Dialogue, music and sound effect can be quickly shifted and rerecorded to match individual scene requirements.

Amega has eliminated the pops, clicks, etc. which were some of the original objections to erase within the recorder.

See the Amega amplifier catalog for different types and combinations available and applicable to your input output requirements. Actual photographs and additional specifications sent upon request.

## INSTANT START-STOP

**FAST FWD.-REV.  
THRU SPROCKET**

# PLEASE SEND ADDITIONAL INFORMATION

## ON AMEGA RECORDING SYSTEMS

A-1 "Standard" \_\_\_\_\_  
 A-2 "Standard" \_\_\_\_\_  
 M-1 "Automatic" \_\_\_\_\_  
 M-2 "Heavy Duty" \_\_\_\_\_  
 M-3 Portable "DC" \_\_\_\_\_  
 M-4 Portable "AC" \_\_\_\_\_  
 M-5 "Studio" \_\_\_\_\_  
 M-6 "mono" \_\_\_\_\_  
 M-6 "mono" combination \_\_\_\_\_  
 M-7 "duo" \_\_\_\_\_  
 M-7 "duo" combination \_\_\_\_\_

Dubber reproducers \_\_\_\_\_  
 Interlock Equipment \_\_\_\_\_  
 Mixers \_\_\_\_\_  
 Consoles \_\_\_\_\_  
 Components \_\_\_\_\_  
 Equalizers \_\_\_\_\_  
 Transolvers \_\_\_\_\_  
 1/4" Tape \_\_\_\_\_  
 Amplifiers \_\_\_\_\_  
 Heads \_\_\_\_\_  
 Microphones \_\_\_\_\_

TO: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# AMEGA

*The most progressive name in Motion Picture Sound*

Manufacturers of Motion Picture Sound Devices

AN AFFILIATE OF OMEGA ENGINEERING COMPANY

11817 WICKS STREET / SUN VALLEY, CALIFORNIA

### WARRANTY:

All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone pre-amplifier will be replaced as complete boards by your dealer or the factory.

Defective mechanical and electronics components will be replaced on exchange basis. Replacement parts will be shipped air mail without charge to the customer to any part of the world. Record and play heads are guaranteed except for normal wear. No claims under the guarantee will be entertained if parts have been misused or abused.